

fishing news international

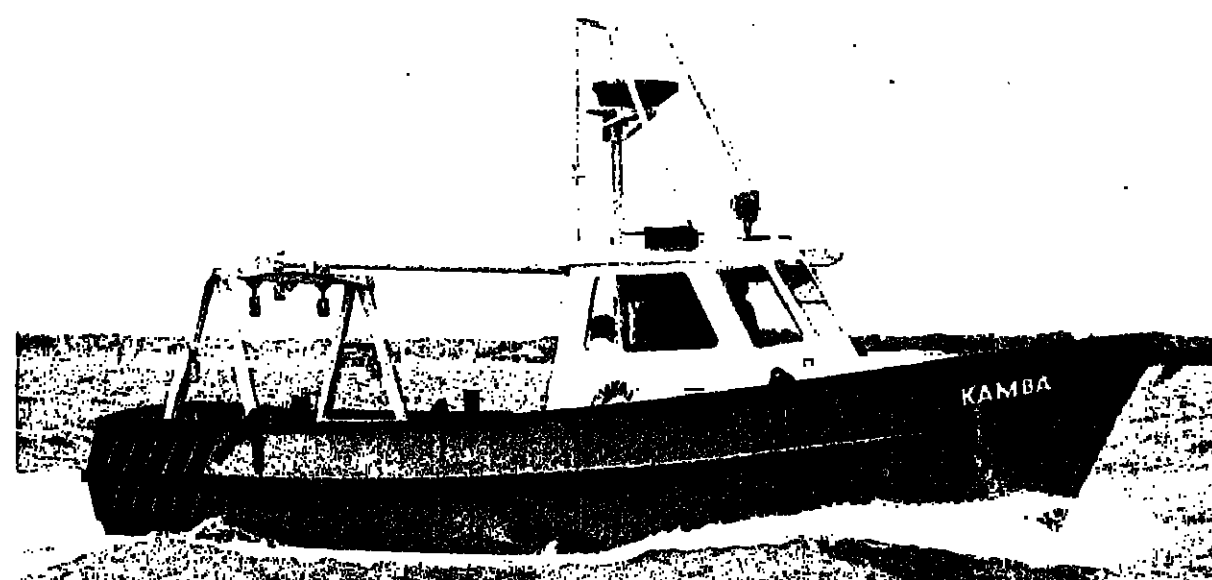
August 1978 Vol 17 No. 8

75p monthly



Shrimper trio for Tanzania

A new use for a small GRP hull from a British yard is shrimp fishing in the waters off Tanzania. The 35 ft (10.67 metres) long *Kamba* is one of three trawlers moulded by Freeward Marine for a British Ministry of Overseas Development project based on Dar es Salaam. For further details, see Page 24.



SURPRISE!

Fisheries chief Herman Watzinger resigns from FAO. — Page 3.

Meal giant sold

Norwegian owners sell the world's largest fish meal factory ship. — Page 4.



NZ-Japan deal?

Fish in exchange for mutton and butter? Trade talks could re-open New Zealand waters to Japan. — Page 14.

Research job

West Germany's research ship *Walther Harwig* stays in Argentina waters to survey fish stocks. — Page 17.

SALMON

Landlocked Atlantic salmon alive and well and thriving in Argentina lakes. A guide to southern seeding. — Page 18.

Boom-time in Canada

Only four years ago, Canada's fish industry plunged into its worst-ever crisis. But now it's boom-time ahead as catches and prices soar to record levels. — Page 20.

WHICH PATH FOR INDIA?

A deep-sea industry supporting large trawlers or a better deal for the small-scale fisherman. Which offers the best future for India? — Page 22.

'Autoliner'

Britain's first 'Autoliner' makes history at the port of Stornoway. — Page 26.

TUNA WAR

Pacific states challenge US dominance

IN WHAT could become a classic confrontation of developed and developing countries, Central American states such as Costa Rica, Mexico and Nicaragua are set to challenge the US dominance of the tuna fishery in the eastern tropical Pacific region.

"We have a 200-mile patrimonial sea and we feel that it is the right of a coastal state to manage, handle and allocate the resources in it," Dr. Gabriela Myers of Costa Rica told *FNI* correspondent William C. Miller in an exclusive interview last month in San Diego.

POISON SALMON ALERT

THE FIRST suspected outbreak of botulism in Britain in 23 years has been quickly traced to a 7½ oz. can of red salmon canned in Bristol Bay, Alaska, and sold by John West.

The victims were four elderly people critically ill in hospital after eating the salmon on Sunday, July 30.

Consumers were warned not to eat canned red salmon from the United States until further tests and investigations could isolate the source of the poison.

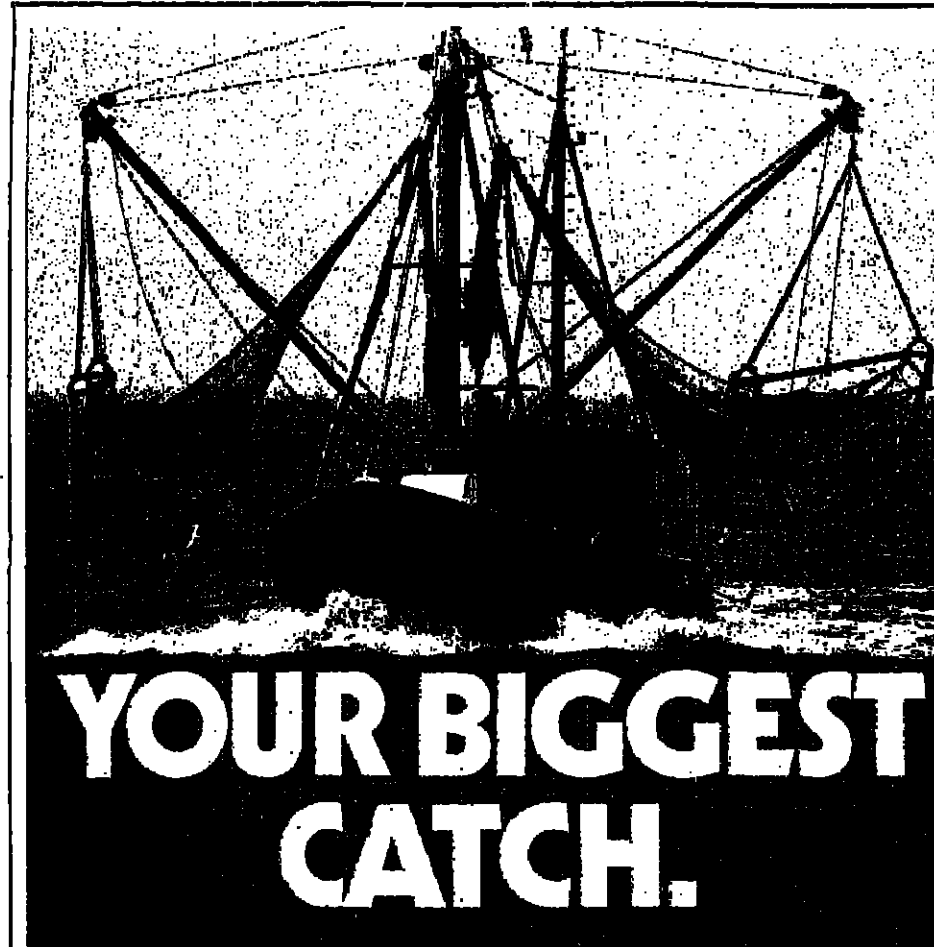
Full report on Page 3.

"That is ours," she emphasised. "The United States disagrees, for if you take Mexico, Costa Rica and Nicaragua, you have 70 per cent of the yellowfin catch taken within 200 miles of the coast."

The interview is reported on Page 4 of this issue.

Meanwhile, the United States tuna fleet continues to expand and modernise with new ships coming off the ways in San Diego, Tacoma and other yards.

Tuna may be a highly migratory species but other coastal states will be keeping a close watch on what develops in the dispute in the eastern Pacific. For on its outcome may depend the future of tuna industries and the eventual decision who controls the tuna shoals as they wander over the oceans.



YOUR BIGGEST CATCH.

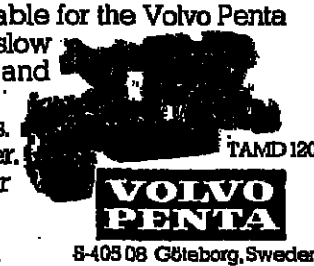
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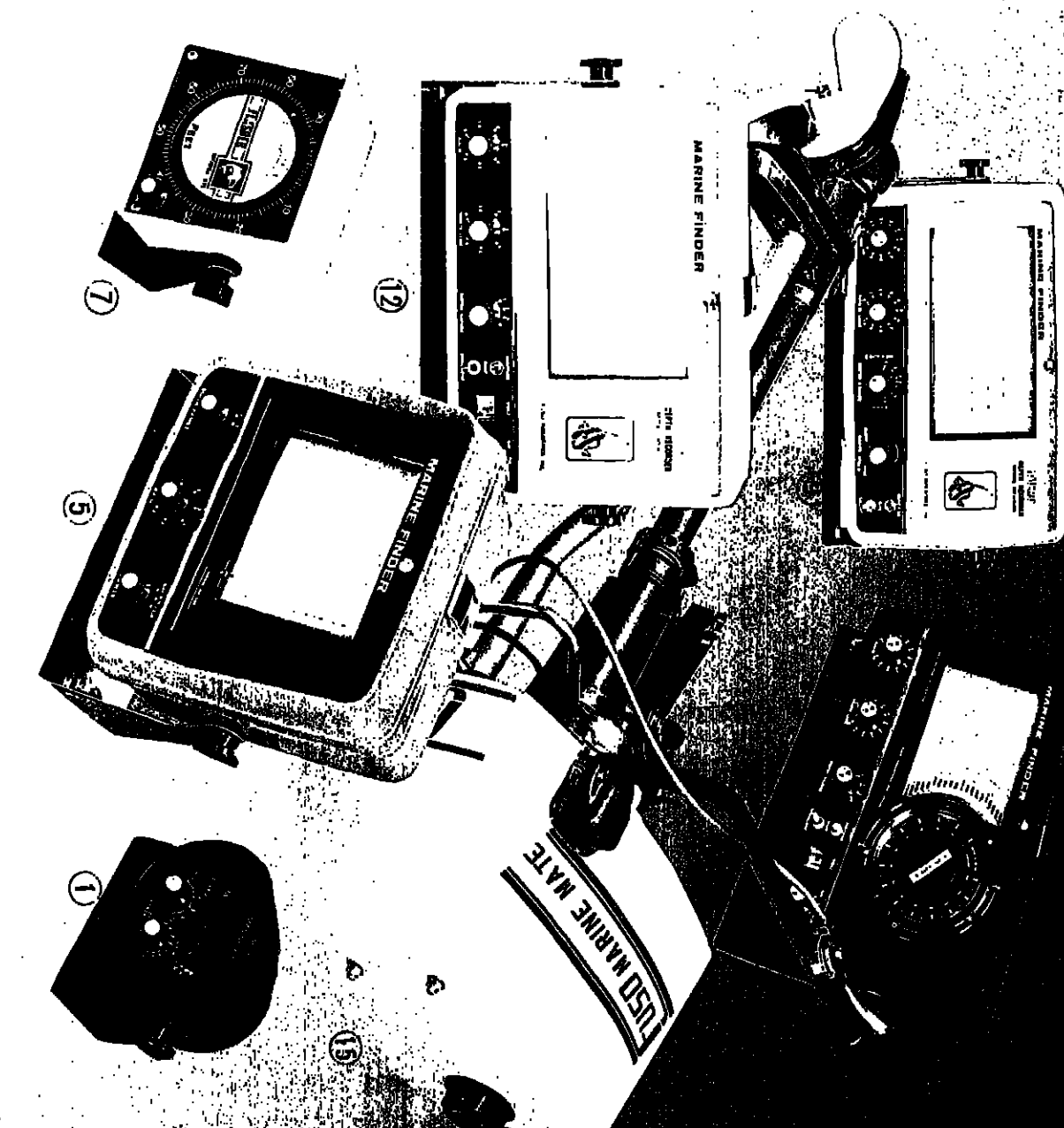
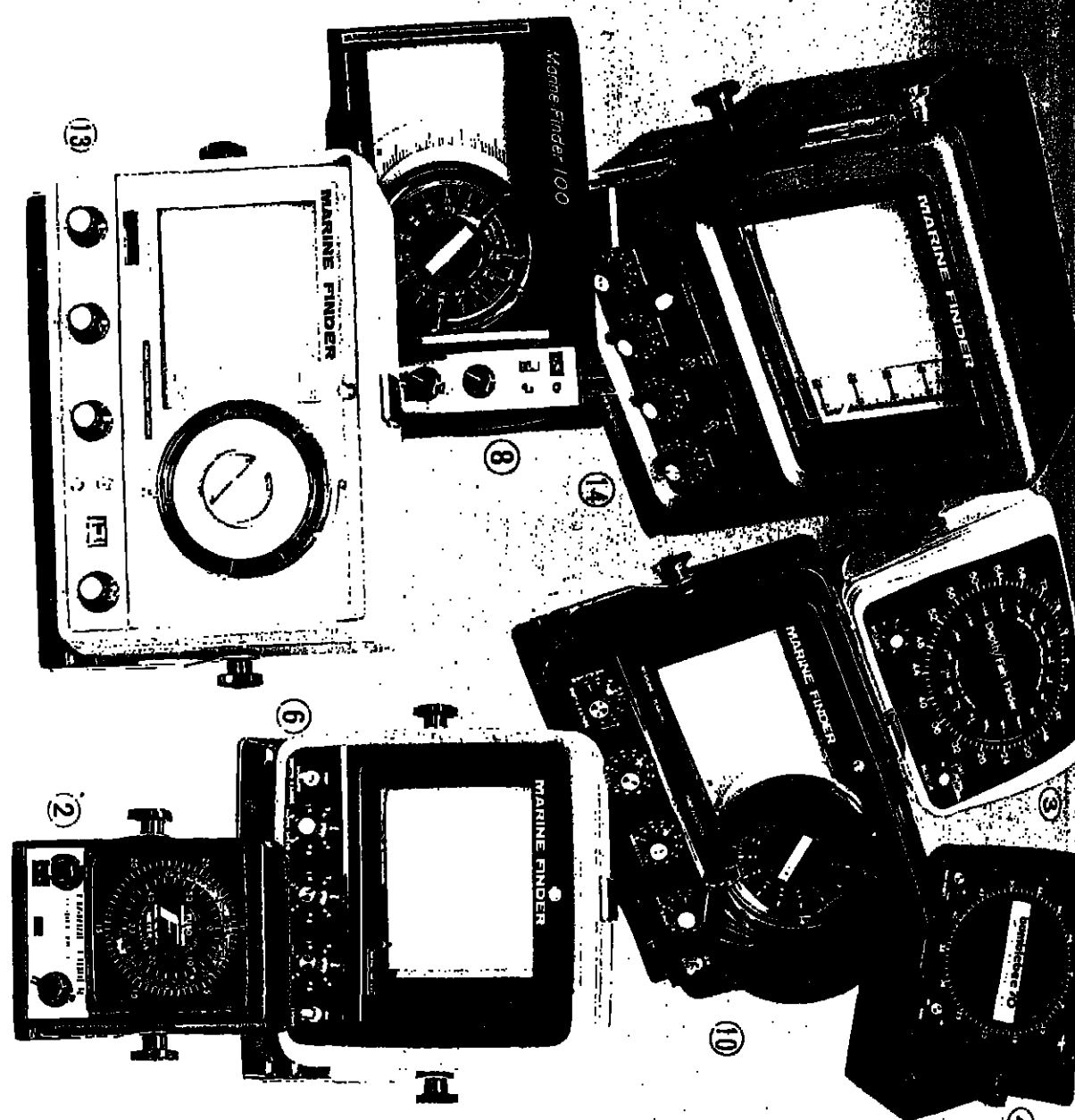
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FIDO MARINE FINDER

FIDO INDUSTRIES, INC.

FAO fisheries chief resigns

THE SURPRISE news from FAO this month is that Herman Watzinger, assistant director-general in the Department of Fisheries, has resigned from his post and is returning to Norway this month.

Mr. Watzinger, who is 62, is a graduate in engineering. He worked in many parts of the world before joining FAO in the mid-1960s. He was involved in the Organisation's development work in Peru and then came to Rome to head the Fishery Industries Division.

In 1976, with the retirement of Fred Popper, Mr. Watzinger took temporary charge of the Department of Fisheries and was confirmed in the post at the beginning of 1977.

Although near the FAO retirement age, he was expected to remain in the post until April next year. Reporting his appointment, our FAO correspondent, Cedric Day, commented that Herman Watzinger would bring a new sort of leadership to the Department and he "is also a man from the fishing industry".

Mr. Watzinger plans to take a short holiday. Then, he told *FNI*, "I expect to work with the industry as I did before I joined FAO 12 years ago."



ICELANDER SMASHES RECORD

THE Icelandic stern trawler *Engey* came into Hull last month to land a catch of 275 tons, which sold for a staggering £121,480. This is the best trip ever by a European wet fish ship.

The landing also broke two other records held by other Icelandic ships. Her grossing was £18,365 up on that of the *Juni*, made a month earlier. It was also £5,000 more than the £116,000 made by the *Ogri* from a catch landed in West Germany last year.

All the turnout was bulk fish and the landing was done in two eight-hour shifts.



The ship arrived on a Sunday and her catch was the only one on the local market on the Monday and the Tuesday. The landing, of 4,400 kits (140 lb), included nearly 4,000 kits of cod and codling which sold for an average of £28.64 a kit.

Poison victims ate canned salmon

A CAN of red or sockeye salmon packed in a factory in Alaska has been blamed for the first cases of botulism in the United Kingdom in 23 years.

When pensioners Leonard Farmer (79) and his wife Clara were visited on Sunday, July 30, by his brother Jesse and his wife Betty, they decided to treat themselves to the luxury of a 7½oz. can of John West salmon. By the following day all were desperately ill, partly paralysed and being assisted to breathe on ventilators in a Birmingham hospital.

The symptoms pointed to botulism, a rare and deadly poisoning caused by toxins

given out by the micro-organism *Clostridium botulinum*.

It can occur in certain sea areas and be picked up by fish. Given the right conditions, the organism can grow and produce its toxin. This was pointed out in Britain just recently by Mr. G. R. Watkin, Inspector to the Fishmongers Company.

Warning against the danger of home canning of fish, he said that *Clostridium botulinum* flourishes in conditions of warmth, "particularly if we exclude air from it."

Canners take stringent precautions against *C. botulinum*. It is ironic that the suspect can should have come from the United States, whose food

hygiene standards are among the highest in the world and whose Food and Drug Administration is sometimes thought to be ultra-cautious in its protection of consumer health and safety.

John West, a company in the Unilever group, has long prided itself on its extremely high quality standards. "It's the fish that John West reject that make John West's salmon the best," proclaims one advertising slogan.

Heated

In the canning process, the so-called "botulinum cook" involves heating the fish to over 120 deg. C for at least three minutes under pressure. But companies packing to John West's high standards would heat the fish for much longer periods.

As soon as botulism was suspected, UK Department of Health officials got hold of the empty can. They took some of the remaining particles and injected six mice with them. All

died. Further tests were then made, and the call went out warning the public against buying any canned salmon. Soon the value of a good coding system became evident. The can's code number was R17G1F7145. From it, John West were able to narrow the source down to a batch of 14,400 cans, of which some 300 had come from a known retort in the False Pass, Bristol Bay, cannery in Alaska of the Peter Pan company of Seattle.

Reputable

It was packed in 1977 and the code also indicated which boat had supplied the fish.

According to John West, the Peter Pan company "is a highly reputable one with which we have traded for many years." It



No problems here—

Fisheries Minister John Silkin is shown a prime fresh salmon during his visit to Billingsgate market last month

supplies its canned fish to wholesalers in several countries.

Contacted by the Department of Health, the US Food and Drug Administration began its own investigation into how the fish might have become contaminated and how the micro-organisms survived the canning process.

Meanwhile, John West stopped distribution of all salmon from its Liverpool warehouse, the public was warned not to eat any canned salmon already bought, and shops took it off their shelves.

As the source narrowed, the warning was confined to salmon from the United States. The Department said that canned salmon from outside the United States should not be regarded as suspect.

Norway first step on Lake Nasser

THE Norwegian development programme to build up the fishing industry on Lake Nasser for Egypt is expected to get under-way soon when contracts are awarded, probably by the end of August.

The programme is budgeted at five million kroner. Aid will be divided between training and technical assistance and gifts of boats and gear.

This year the first step is to get started a survey of stocks and kinds of fish present in the lake.

Two transport boats loading 10-15 tons will be supplied and a number of small fishing vessels, all to be built in Norway.

An important aspect of the programme is training the local fishermen, about 6,000 according to Norrid estimates, to use the new gear, to improve catches and handling of fresh fish.

ARGENTINA FISH PLANT CEREMONY

Under the Secretary of Fishing helped lay the corner-stone of a new fish processing and storage building being constructed by an Argentine/Spanish firm in the city of Rawson, in the southern province of Chubut.

Empresa Continental Armadores de Pesca SA, is constructing the 5,000 square-metre facility to process fish which will be caught and transported to the land-based plant by two fishing and two refrigerated ships.

NORWAY SELLS THE 'NORGLOBAL'

THE NORWEGIAN owners of the fish meal factory ship *Norglobal* have sold her to a Bermuda-registered company. Operator and former part owner of the ship, Sigurd Herlofson, says it has not been decided where the ship will work. Herlofson & Co. will continue as operators.

A British company is reported to be interested in the possibility of using the *Norglobal* in the Antarctic krill fishery.

The *Norglobal* was converted in 1970 from a 26,100 deadweight ton bulk carrier. Built in 1962, she is 178.2 metres

No more fish for floating meal factory

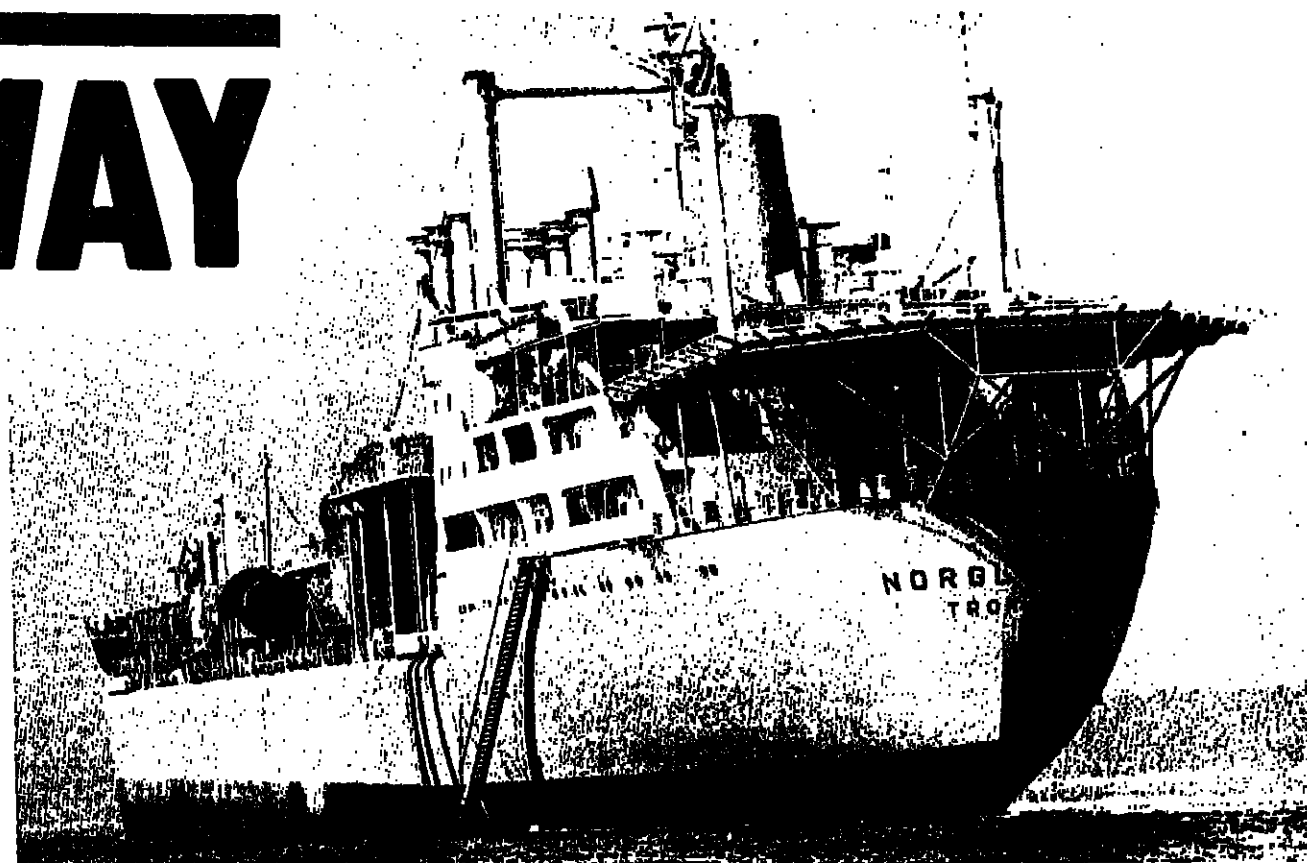
long and produces her meal in three Myrens lines, each able to handle 1,000 tons of fish a day.

For some years after her conversion, the ship was operated mainly in the eastern central Atlantic handling sardinella, horse mackerel and other small shoal fish supplied to her by a fleet of 12 to 15 purse seiners.

Later the *Norglobal* was employed in the capelin fisheries. She was chartered for two or three seasons by the Icelandic fish meal industry; she worked off northern Norway in the summer capelin season; and she has also accompanied Norwegian catchers to work capelin off Newfoundland.

This year, however, the Icelandic meal industry had the capacity it needed without having to bring in the factory ship. She was not permitted to work in the now-restricted Norwegian capelin fishery. A final blow was the failure of the capelin fishing in Canadian waters.

The *Norglobal* and 12 catchers returned to Norway last month, having taken only about 4,000 tons, less than ten per cent of the allotted quota.



Caspian's sturgeon stocks restored

ONE OF the great Soviet achievements in fish stock enhancement by artificial methods has been the restoration of the sturgeon stocks of the Caspian Sea and its river systems.

This has been achieved by a combination of large projects, including hatcheries, fish ladders to circumvent dams, and development of vigorous sturgeon hybrids.

Millions of young sturgeon and other fish are bred at the Kurilskoye fish farm run by the Central Institute for Sturgeon Research at its Ural-Caspian branch. Sturgeon eggs are sent from there to the Don and other rivers.

The Ural River, which is more than 1,600 miles long, is one of the main rivers of the Caspian basin where sturgeon are bred.

In recent decades stocks had diminished because of industrial and hydro-electric projects around the area of the spawning grounds.

This depletion has been reversed by measures taken to counter industrial pollution and by artificial breeding in hatcheries.

ICELAND SAYS NO!

A REQUEST by the owners of 22 Norwegian vessels fishing off Iceland to continue after August 1 and/or to be given an increase in their 2,000-ton cod quota has been refused, according to the Fisheries Directorate in Bergen.

The Icelanders are sticking to the quota negotiated and stopped fishing from August 1, regardless of total catch.



A rich catch of sturgeons on the lower reaches of the Ural River. The sturgeon revival is one of the great Soviet achievements in stock enhancement in its river and lake system.

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TUNA CONFLICT LOOMS IN THE PACIFIC

special report by WILLIAM C. MILLER

"AS THE years have gone by, I have seen more and more insistence by the United States tuna industry and the government on giving us a quota of our own resource. That has totally irritated the nationalistic attitude of the coastal states such as Costa Rica, Mexico and the rest."

Dr. Gabriela Myers, Costa Rican diplomat and commissioner on the Inter-American Tropical Tuna Commission, was explaining why the Central American countries want a larger share of the tuna caught off their coasts.

The IATTC is the eight-nation body which manages a yellowfin

tuna conservation programme in the eastern tropical Pacific Ocean. Costa Rica, Mexico, Nicaragua and Panama are the coastal state members bordering the fishery. The other members are the United States, Canada, Japan and France.

Underdeveloped nations versus developed nations? "Why should you give us a quota of our own resource?" Dr. Myers asked me in an exclusive interview in San Diego, where she is Costa Rican consul-general.

"The US has made its fleet 'outgrow' with no control, no

plan, no dialogue with Latin America, where the resource is caught."

She criticised the United States for adopting a 200-mile limit and then claiming that tuna is a highly migratory fish and therefore not subject to control by any coastal state.

"The US cannot go 200 miles and yet exclude one species, the tuna. That's just too convenient!"

Costa Rica is planning some proposals for the reorganisation of the IATTC which is being precipitated by the withdrawal of

Mexico in October and Costa Rica early next year.

One proposal would require an international licence by member countries to fish in the five-million square mile yellowfin regulatory area. The licence fee would be \$100 per net registered ton. The US fleet would pay about 60 per cent of the total fee, or some \$6.7 million.

The total fees collected would meet the annual IATTC budget, with a portion of the remainder distributed to the countries

bordering the fishery: Mexico, Costa Rica, Nicaragua and Panama.

Does Dr. Myers think a new IATTC treaty can be drawn up before next year in time for the setting of the annual yellowfin quota?

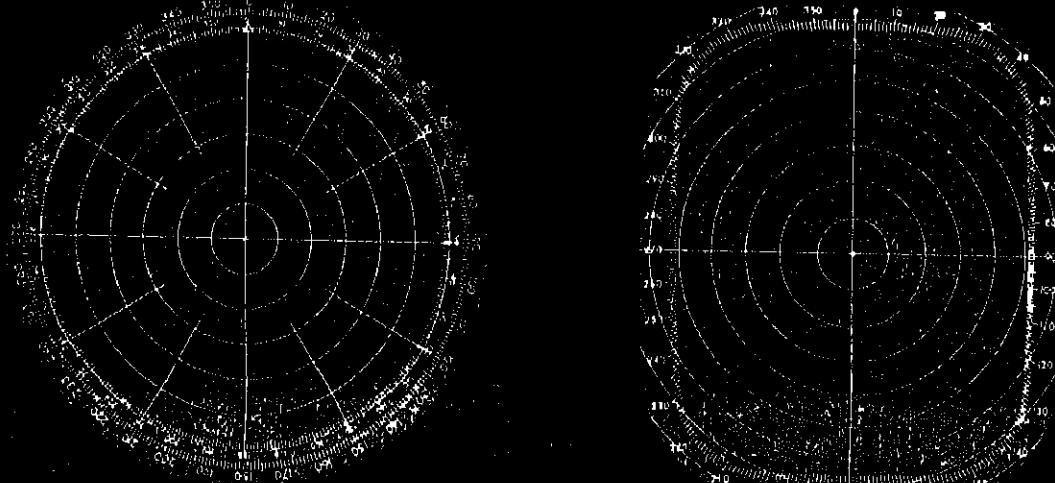
"That is the hope of most of us who have dealt with the problem," she said.

"We are willing to negotiate a formula because we need a programme for the conservation of the yellowfin resource."

She also expressed belief that Costa Rica's new law requiring foreign flag superseiners to pay \$600 a ton capacity for the right to fish for 60 days within the 200-mile limit could be modified under negotiations.

But the band plays on...

As a band plays, another tuna purse seiner for the US fleet moves down the ways. The launching of the 1,200-ton, 221 ft. long *Pacific Princess* is the second this year from the San Diego Marine shipyard (Campbell Industries). Skipper and part owner of the *Pacific Princess* is Avalino Gonsalves; the other share is held by Star-Kist Foods. Her main engine is an EMD 20-cylinder diesel developing 3,800 hp. Her modern electronic gear includes Magnavox.



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GHANA DOUBLES SEINER ORDER

THE Ghana State Fishing Corporation has doubled its order for tuna purse seiners from Italy.

Last year the firm Societa Esercizio Cantieri received an order for two vessels. The first of them was launched last month and is scheduled for completion in September.

Under a new agreement signed in Accra on June 30, two more ships will be built by the same yard. Total value of the order is about US\$20 million.

Difficulties over another contract from Ghana now appear to have been eased.

The Norwegian aid organisation NORAD has recommended that the Guarantee Institute for Export Credits give the Sterkoder yard in Kristiansund a guarantee of more than 90 million kroner (nearly £9 million) to cover four large tuna purse seiners required by Mankoadze Fisheries Ltd. of Ghana.

But another four purse seiners wanted by Mankoadze will now be built in West Germany.

NORAD wants the guarantee given on its earlier conditions that the Ghana company's requirement for a ship of 55 metres be modified to one of 45.5 metres.

● The Norwegian government has guaranteed the export of 3,500 tons of dried fish (backbone saithe) to Zaire by 12 firms.

These guarantees are limited to 32.2 million kroner (about £320,000).

Because of problems getting paid in the past, the firms had refused to export to Zaire, despite having 6,500 tons in stock.

Sri Lanka to sell boats on HP

THE Fisheries Corporation in Sri Lanka is to make 50 small GRP-hull fishing boats available for hire purchase by fishermen. Part of the arrangement will be that the Corporation is given first option of buying the catches.

Shortage of suitable boats is seen as a prime reason for Sri Lanka's scarcity of fish and high prices. The Corporation should have been a producer itself, but when the present government took office, it had only five trawlers and 100 tuna boats. And all of these were under repair.

They will soon be back in service, but it has also been decided that the fleet should be augmented.

fishing news international

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Telephone: 01-363 6961.
Cables: FISPROBOK, London
Telex No: 21977.

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Subscription Information
Subscriptions (surface mail, including the UK):
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Fast delivery rate: £15 (US\$30) a year. Outside Europe, airmail rate: £18 (US\$32) a year.

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PUBLISHED MONTHLY
"Fishing News International" provides full and up-to-date information about the activities of fishery industries world-wide.

It reaches and serves fishermen, fishing companies, processors and distributors in more than 160 countries and territories. It circulates among members of governments and international organisations, and among fishery administration and research workers.

Readers also include designers and builders of fishing craft, makers of fish finding instruments, catching gear and processing machinery, consultants, operators of fishery protection services, and the many other people engaged in an industry that is harvesting and handling 73.5 million tons of aquatic creatures and plants a year.

Who should develop India's fisheries?

comment

IN FNI in recent months, we have reported what appears to be a significant change in Indian government policy towards the development of the fishing industry. This is evident in the appearance of large companies, several of them multi-nationals, as the operators of catching fleets and process plants.

Meanwhile, the central and state governments continue to encourage improvements in the small-scale sector which, as we note again in a report in our Ports and Markets section, involves the vast majority of the country's boats and fishermen.

In trying to understand the Indian fishing industry, it is necessary to separate what is actually being done from what planners hope will be done. Then the hopes also need examining and further sub-division.

A firm plan with, say, Asian and World Bank or UNDP financial support and guided by FAO or other aid agency expertise, is very different from a proposal still to be put to these agencies. And firm plans and carefully thought-out proposals are far removed from the gleam in a politician's eye when he talks to constituents pleading for a better landing place, a road or a batch of outboard motors.

We should add, of course, that this problem of separating fishing facts from forecasts, and forecasts from fantasies is not peculiar to India.

But India is one of those so-called developing countries where

modern, sophisticated fishery activities exist alongside the extremely primitive; where there are a few freezer trawlers and myriad unpowered canoes, and a factory a short distance from fish drying in the open air.

Investment in boats, ventures into deeper waters and projects in areas previously neglected are all to be welcomed. But will the newcomers stick to this pioneering role; or will the need to show returns and satisfy shareholders force them into competition with established fishermen, processors and traders? Already, there are signs that this may be happening.

From his experience of the Indian industry, our FAO correspondent Cedric Day favours the more cautious approach with its emphasis on improving the small-scale fisheries. He argues this in a special article on Page 22.

Diverted

In such countries it is difficult to form a clear impression of what is best for the industry. And progress is often diverted by compromises that are no more than evasions by people afraid of deciding one way or the other.

Our own view of the trend in India towards big company fishing is that this may not do much for small fishermen but it could be the making of a

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ونشيدوا أننا من جهة تجارب شتى فلهذا وقد جرى اختيارنا من قِبل صيد الأسماك النشطة في بحر بارنت وبالشمال في صيد الأسماك موسمياً في مياه المناطق الاستوائية.

طيفوعة فـلـوـاتـر بـار بـلـوك 1,2 - 7,5 - 258 كيلو غرام

الـفـلـوـاتـر الـاسـطـوانـيـة 0,3 - 1,6 - 210

الـبـوـاـيـات الـهـيـكـلـيـة 2,0 - 310 - 258

و من أجل تزييد مبيعاتنا في غرب إفريقيا بالخدمة المطلوبة

نفتح مكتباً خاصاً بنا في لاس بالماز وجنر الكاناري .

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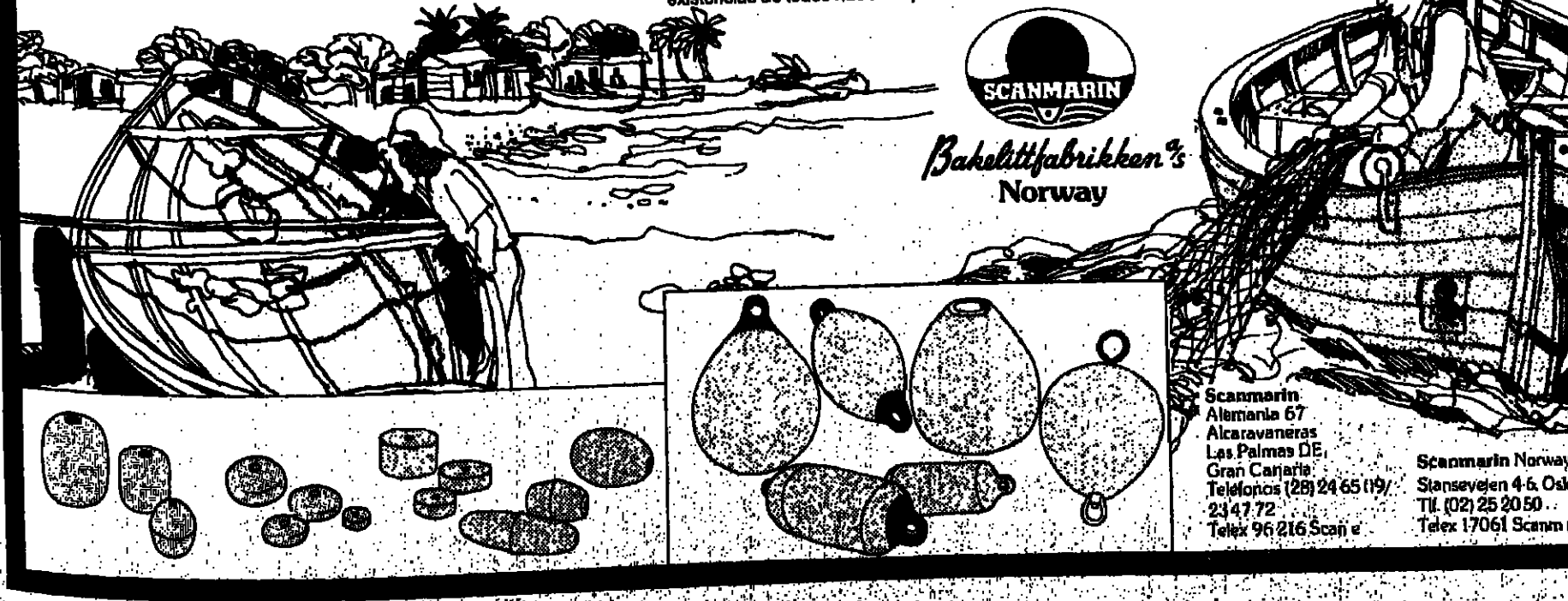
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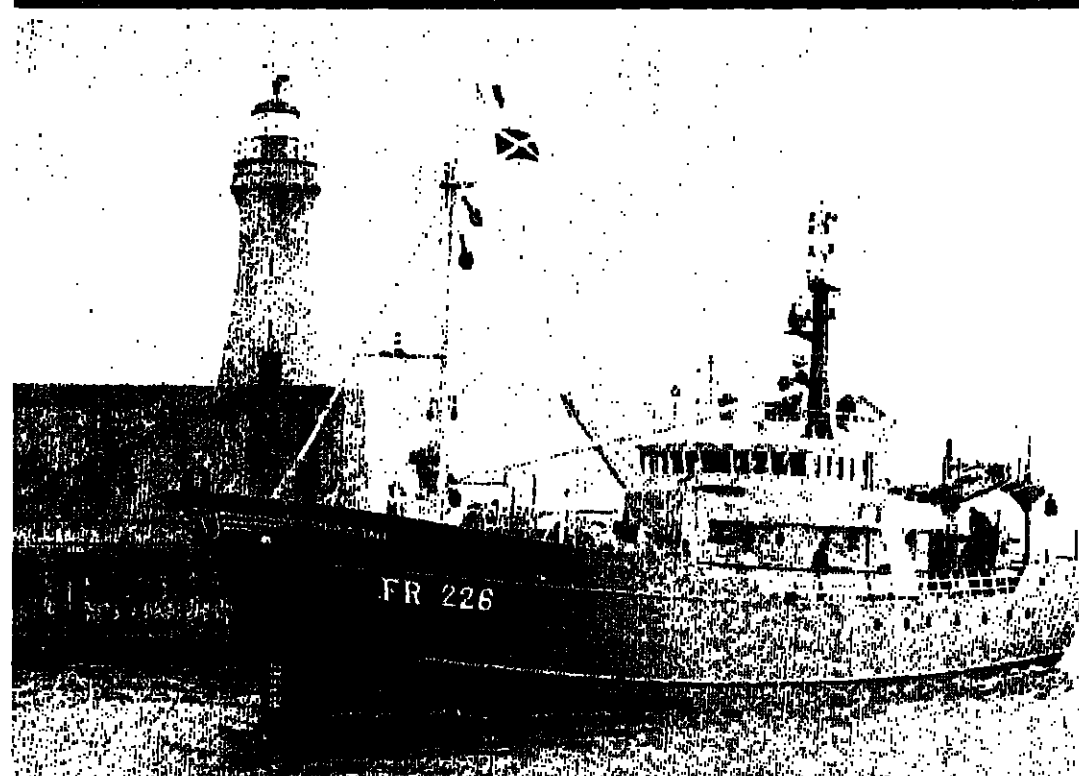
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As Scotland gets two more purse seiners, Norway is warned...



THE ANDRA TAIT: Built in Holland to fish out of Fraserburgh.

SCOTLAND'S fleet of purse seiners grew further last month when £2.3 million worth of new boats arrived from yards in Norway and Holland.

First arrival

First was the 110ft (33.54 metre) *Lunar Bow* built by the Sigbjørn Iversen yard in Flekkfjord, Norway. She is owned by the Buchanan family of Peterhead and will be commanded

by Skipper William Buchanan. The family already has two purse seiners, the *Vigilant* and the *Pathway*.

Another family-owned ship is the 137ft (41.77 metre) *Andra Tait*. Built by the Maaskant yard in Holland, she joins the *Chris Andra* and *Tait's* fishing out of Fraserburgh for the Tait family. With RSW tanks able to take 500 tons, the *Andra Tait* is powered by a 1500 hp Wichmann diesel engine.

TOO MANY PURSE SEINERS

THE WHOLE Norwegian quota in the next winter capelin fishery could be taken by 40 of her large purse seiners.

A study of the Norwegian purse seiner fleet by the Bergen-based Christian Michelsen's Institute for the Council for Fisheries Research bases this on 40 boats each with 10,000 hectolitres for the next season is based on a four million hectolitre quota after 50-50 split with the Russians.

Many more than 40 vessels will take part in the fishery, which, in the 1978 winter season, caught 770,688 metric tons (7,475,000 hl), and in 1977 caught 1.4 million tons. But it is feared that Norway's 290 purse seiners will be facing very difficult years from now until the early 1980s.

The fleet is still expanding as the last nine or ten of some 20 high-capacity, high-powered combination purse seiner/traulers, contracted with state subsidies to help provide work for yards, are delivered over the next year.

Difficult

According to a representative of the Fishing Boat Owners' Association, it is very difficult to say what the optimum size of the fleet should be.

In his view the most interesting result of the study was the light it cast on the consequences of various conservation measures or unexpected stock losses.

The crucial question was how many of the present vessels could survive the deepening crisis until 1981.

Quotas fixed

ACCEPTING the recommendations of the Fisheries Directorate, the Norwegian government last month fixed the 1978 summer capelin quota at 3.5 million hectolitres, or 340,000 metric tons. The quota for mackerel taken east of 4 degrees W was set at 890,000 hl or 80,000 tons. Of this, 445,000 hl can be taken for reduction to meal.

Boats delivering mackerel from east of 4 degrees W cannot start fishing for capelin until September 20. Vessels in the summer capelin fishery cannot take mackerel until October 15.

The Fisheries Director has also reserved the right to make further restrictions on boats that have taken mackerel and participate in the capelin fishery.

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'Aphrodite' will set sail for tuna



Skipper and owner Louis LeMesnager waves from his motor sailing troller after her launching last month in San Diego's South Bay.

USUALLY it's the fisherman with the edge who makes the money. The edge may be in the proficiency of the boat, gear and equipment, or in the fisherman's expertise, and luck.

With the Californian vessel *Aphrodite*, a combination jigboat-tuna baitboat, the edge could be sail.

She is one of the few motor sailing trollers fishing albacore and the tropical yellowfin and skipjack tuna in the Pacific Ocean.

It took her owner, Louis LeMesnager, and four worker-friends 2½ years to build the 63½ ft long (19.36 metre) *Aphrodite* on a vacant lot near San Diego's South Bay.

No ordinary home-made boat, she is a high quality custom job built to specifications designed by San Francisco naval architect J. P. Hartog.

Mr. LeMesnager estimates that the boat cost him \$250,000, not counting his own labour.

Saves fuel

The main reason for the sail, to be added this winter, is to save fuel and extend the boat's range next spring, when she is sailed to Midway, where albacore fishing has been good about a month earlier than along the US-Canada west coast.

Her owner plans to use sail when travelling and looking for fish; he will then switch to power when fishing. Cruising speed is about 10 knots under

THE TAIT BOATS

IN A report in July FNI on the Tait family purse seiners, it was incorrectly stated that the *Chris Andra* and the *Tait's* were built by the Karmoy yard to a design by Ulstein. They were in fact designed and built by Karmoy Mek. Verksted A.S.

power from an 8-71 Detroit Diesel. Modern electronic gear includes automatic pilot, radar, navigator and various radios.

The refrigerated fish wells and hold have a total carrying capacity of 45 tons. At the latest price of \$1,220 a short ton for albacore, Mr. LeMesnager could recoup his \$250,000 investment with five complete boatloads of fish.

When the *Aphrodite* is working as a jigboat, her fishing gear will be a Jim Lions five-spool set of high-speed albacore pullers. When bait fishing, the crew will work from the stern with pole and line and barbless hooks.

Albacore will be fished during the summer-autumn season, and then yellowfin and skipjack in the eastern tropical Pacific.

Spain goes fishing for new agreements

WHILE organisations such as the British White Fish Authority look apprehensively at the fishing fleets of Spain and Portugal and warn of the implications of their entry into the European Common Market, the Spanish industry waits for the time when it will get a chance to end its present disputes over fishing rights within the EEC 200-mile limit.

ROBERT RICHARDS reports on this and other international issues affecting Spain's large, ocean-roaming industry.



Pax Stern trawlers in Spain's wide-ranging fishing fleet seen recently in the north-west port of Vigo

WHEN WILL Spain enter the Common Market and end her troubles over fishing in EEC limits?

According to Pierre Duchateau, the EEC official in charge of negotiations with aspirant members, the agreement with Spain and Portugal should be signed by 1982. This would bring them in by 1983.

The agreement with Greece should be signed in 1979 with entry in 1980.

Meanwhile, Spain con-

tinues to negotiate with the EEC for licences. The last accord granted 121 for deepsea fishing to 85 ships, another 140 for anchovy and 50 for coastal fishing in the Cabreton area.

Portugal

Spain is also negotiating with many other countries to try and keep up her fish production. But this is not easy.

In the United States economic zone in 1978, for example, only 18 Spanish

vessels were able to take part in the squid season. The quota was 5,000 tons of squid, 7,000 tons octopus and 5,000 tons of other species taken as by-catch. Previously about 25 per cent of Spain's supply of these cephalopods came from waters off the USA.

Further north, Canada is considering a Spanish request to raise her quota of cod from 2,000 to 3,000 tons. In exchange, Spain will import more fish products from the Canadian industry.

Closer home, talks have been held with Portugal to fix an agreement for fishing between 12 and 200 miles of both countries. The tradition has been for Portuguese fishermen to be active off the north-west coast of Spain, while Spanish fishermen operate off the southern coast of Portugal.

As reported last month,

Mauritania

Following meetings between representatives of the Spanish and Mauritanian governments, it was announced that several hundred Spanish boats would be allowed to work off the coast of Mauritania.

But Spanish boats have not done so well off Cameroun and off Mozambique. There are some 70 boats working there and their owners complain that they are having to pay a heavy tax on the prawns they catch. This is reported to be as high as 48 pesetas a kilo on the 6,000 tons a year taken off Mozambique.

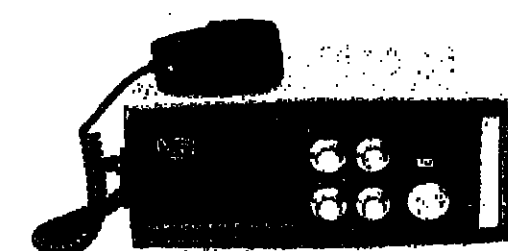
The new director

SPAIN'S new Director-General of Marine Fisheries is Senor Gonzalo Vazquez, who was previously head of a fishing company in Vigo. He was sworn into office by the Minister of Transport.

This same Ministry, together with the Ministry of Education and Sciences, is proposing to create an Institute of Technology and Marine Sciences in Vigo, which would be linked to the University of Santiago de Compostela.

The Institute would offer post-graduate training in the catching and treatment of fish, industrial fishery products, marketing and fishery economics, maritime law and aquaculture.

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Wesmar news

Sonar assists surveying work along the remote Alaska coast

CAPTAIN Warren Williams of Seattle, Washington, USA, owns the 50-foot, Menck design Shana II and works government contracts with surveying teams in remote areas of Alaska.

He has equipped the Shana II, built and designed for charter work, with a WESMAR scanning sonar, enabling him to take the boat and government surveyors into areas where charts are not accurate and depths cannot be relied upon.

"The sonar really does a fine job," said Captain Williams. "We left Wrangell, Alaska,

cruising with the sonar set on the 100-foot scale. We went to an area where there's no information. Local fishermen didn't even know the area.

"We worked our way into places nobody goes," he continued, "I went picking my way through and snaking around using the sonar and its speaker to warn me when we approached shallow bottom and rocks. The sonar is fabulous for this type of work.

"The area had 20-foot tides. At low tide, the pinnacles of rocks towered over our heads. It scared me to death to see where

we had gone. The local fishermen were quite interested when I told them where we had been.

"Another time, I was running through Ernest Sound with the sonar on," he said, "and I heard a couple of blips and found we had picked up a large school of salmon. In a few minutes, we had a couple of salmon on board.

"I'm still learning to use the sonar, to fine tune it and to identify false marks. Of course, I'm cautious, but I trust the sonar. It backs up my radar and my charts."



Captain Okada and his WESMAR SS160 sonar

Scanning sonar locates scattered schools

CAPTAIN OKADA is the owner of No. 81 Chosai Maru, a 69-ton purse seiner fishing for Ikado Fisheries out of Misho, Japan.

Until recently, Captain Okada had been using a 360-degree omnidirectional sonar in his fishing operations, but found the large sonar lacked the high resolution to locate scattered schools.

He then installed a 180-degree omnidirectional sonar and a WESMAR SS160 high frequency scanning sonar. He chose the SS160 because of its high resolution and ability to locate sparse schools of

serdines, mackerel and Spanish mackerel. The SS160 will provide Captain Okada with the information necessary for him to set his net on the densest part of the schools.

During a two-hour sea trial near Southern Shikoku, Japan, Captain Okada located several schools of scattered fish using the SS160.

Later, he told WESMAR representative for Japan, Phil Werdal, the WESMAR sonar was very good and would help him greatly in his fishing operations.

"For the price," said Captain Okada, "WESMAR puts out a very good sonar."

Sonar is 'brilliant' says Scottish skipper

EARLIER this year, owner and Captain Robbie MacRitchie of Stormoway, Scotland, installed a WESMAR SS220 high frequency scanning sonar aboard his trawler Golden Strand.

To receive operating instructions for the SS220 sonar, Captain MacRitchie and WESMAR's representative for Scotland Del Clark set out from the northern Hebrides Islands' city on the first day the sonar was installed.

After only an hour of instruction from Clark, Captain MacRitchie began identifying pinnacles of rock as they

appeared on the CRT (Cathode Ray Tube) screen. After identifying these marks Captain MacRitchie discovered a large school of herring.

Later during the day using the SS220, Captain MacRitchie took the Golden Strand safely into shallow lochs in search of sprats. Again, he easily identified a number of rock outcroppings by watching the sonar's CRT screen, and successfully found fish nearby.

"The sonar is brilliant," said Captain MacRitchie after his first day using WESMAR's SS220.



"The sonar is brilliant," said Captain MacRitchie of his WESMAR SS220.

without worrying about hanging up his nets.

This particular trip lasted five days and resulted in many tows. For two of the days, the Laura fished in heavy weather. With the sonar's stabilised transducer, the SS220 continued to perform in rough waters.

Using the WESMAR sonar, Captain Rucker had enough advanced warning to steer around possible hang ups safely since the sonar gives precise location of trouble spots. To avoid hang ups during the trip, boats without sonar installed aboard had to follow the Laura and other WESMAR sonar-equipped vessels.

Captain Rucker, accompanied by a WESMAR sales representative, brought in a successful 15,000 lb of shrimp.

The WESMAR SS220 aboard the Laura was set at the 900-foot range, 48-degree tilt for 75 to 90 fathoms. The sensitivity was kept relatively low so any obstacle which could hang up the gear would appear brightly on the sonar's CRT (Cathode Ray Tube) screen and make a warning sound in the sonar speaker.

With the sonar speaker set, Captain Rucker was freed from constant CRT monitoring to operate his foran and radios

along the Pacific Coast of the United States between Kodiak, Alaska and South Bend, Washington.

Like many other bottom draggers, Captain Rucker uses his SS220 to locate hard bottom, rocks, reefs, sunken vessels and other obstacles, which could damage his gear.

On a recent fishing trip,

Shrimp boat avoids obstacles using her WESMAR sonar

RONNIE RUCKER, captain of the shrimp dragger Laura owned by E. F. Bendiksen, spent many years as a youth learning shrimping in the Gulf of Mexico.

During the recent shrimp season, Captain Rucker has been fishing the Laura equipped with a WESMAR SS220 high frequency scanning sonar

WESMAR Western Marine Electronics,
905 Dexter Avenue North,
Box C19074, Seattle, Washington 98109 USA
Telephone: (206) 285-2420
Cable: WESMAR, Telex: 329509.

FISHERMEN, manufacturers, fishing journalists and others watching the present build-up of exhibitions for 1979 and 1980 might divert themselves by thinking up a suitable collective noun for this promised feast of "greatest ever," "first ever," or "long established" shows for the fishery industries.

A "confusion of exhibitions" comes quickly to mind; so does a "chaos"; and my colleague on *Fishing News*, Harry Barrett, thinks it should be a "confrontation". One bewildered manufacturer trying to make up his mind where to go says a "congestion of exhibitions."

Any more suggestions? Think hard and win two free tickets to the second postponement of the next super-show deferred to 1990 by popular request.

But, trying to be serious, I am not one of those who regards exhibitions and conferences as a waste of time. A modern, highly technical industry needs to communicate, through its trade press of course, but also through actually seeing the equipment and gathering at meeting places.

An exhibition of the quality, scope and size of the recent show in Aberdeen, or Nor-Fishing of 1976, or the regular Fish Expo in the USA, renders a service to fishermen and to their suppliers. And, until recently, it did seem that the shows were settling down to a regular pattern.

A sad tale

Then things began to get complicated. How and why would take several pages to explain. It adds up to a sad tale of missed opportunities, inexperience, obduracy and ambition.

For 1978 the sequence is relatively uncomplicated — Catch 78, Fish Expo and Nor-Fishing, moved from Trondheim to Oslo and from August to November but still adhering to its two-year frequency.

But next year the problems begin. At the World Fishing Exhibition in Halifax in 1977 we all expected the usual announcement of the next venue and dates. But the new owners of this exhibition had problems finding a venue. We were all kept waiting, until people began to doubt whether there would be a show in 1979.

Encouraged therefore by their success in the British fishery exhibition field, Eagle Exhibitions decided to organise a new Eurocatch international exhibition and have it in London in June 1978.

Soon after this, the GERP-SEPIC group in France came up with the first International Exhibition on Fishing and Allied Industries, which is planned for Nantes from June 6 to June 11.

Then, ITF, the World Fishing Exhibition owners, said they would be exhibiting next year — in June and in Copenhagen.

Worst place

Now, if someone had asked me which would be the worst possible place to stage an exhibition next year, I would have said Copenhagen. Not that I don't like the place; I know dozens of fine fishing men who would be delighted to go there, but not to see fishing equipment!

The problem with Copenhagen is, first, that Denmark has long had its own fishery exhibition; and second, that the Danish fishing industry must be one of the most depressed in Europe.

Apparently ITF soon found this out. After flooding the industry with announcements, it released another flood, saying the show was off to June 1980. The reasons, for those who are interested, are given in our Meetings and Exhibitions section.

This leaves two shows in the running — Nantes and Eurocatch in London. Fish Expo fills its regular slot in Seattle in October.

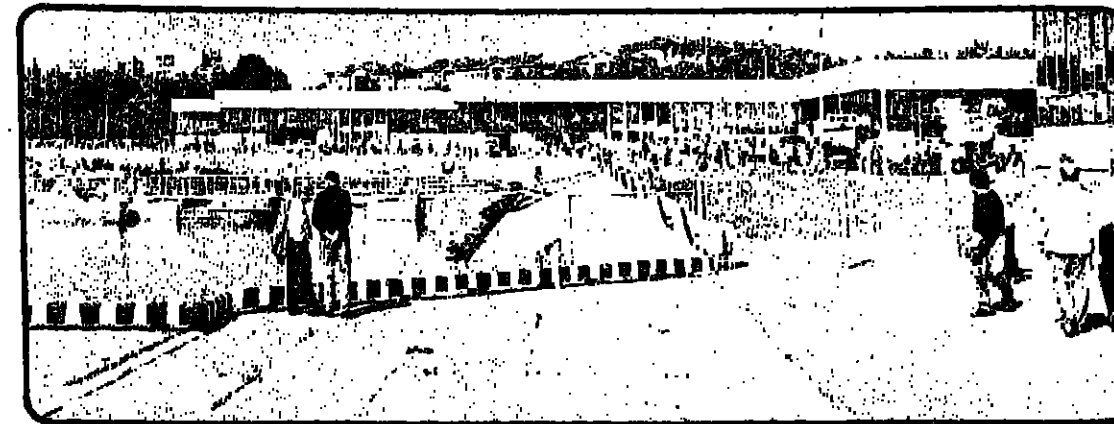
Probably the most interesting of all in view of the fishery development possibilities in Australia and New Zealand is the second Australian Fish Expo in Western Australia in August.

Out of orbit

But we now have another problem: like a wandering planet out of orbit, the World Fishing Exhibition is crashing into another series of events in 1980. First of these is the now two-yearly Catch exhibition in Aberdeen. This is established, has good support and has no reason to move out of its slot. It will be in Aberdeen in June 1980.

Also due for 1980 is Nor-Fishing, which, for years, alternated with the World Fishing exhibition. But those were the quieter days when there was some understanding among organisers.

To make the year even more complicated, the Soviet



Scheduled again for 1980 is the largest of all the fishing shows — Inrybrom in Leningrad. This is part of the huge 1975 show.

from the dockside

Union is to hold its third great Inrybrom exhibition in Leningrad. The dates have not been finalised, but it will probably be in the closing days of July or in August.

Russia and her industry are not likely to be deflected from this by the wrangle in the west. And anyway they made it clear to us at the last Inrybrom in 1975 that this was going to be a five-yearly event.

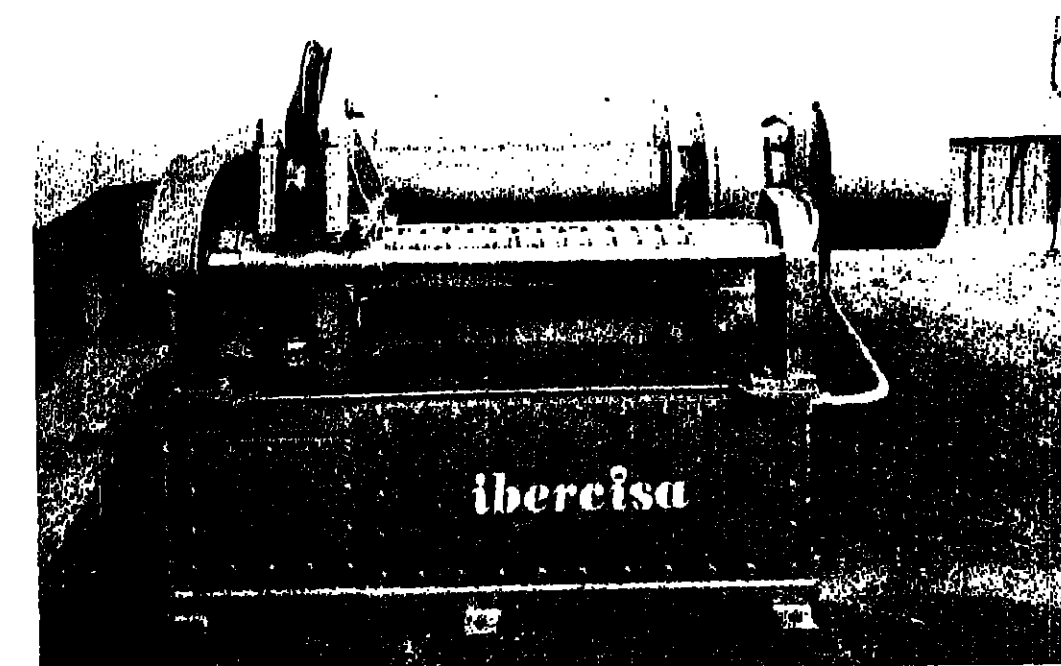
As I said earlier, exhibitions are a useful part of the fishing scene. But their organisers are losing friends fast.

In common with manufacturers, we do not want to have to pick sides or to be forced into decisions that could be costly and time-wasting. If this congestion of shows goes on without some attempt by organisers to get together and introduce some order into the chaos, we may have another collective noun to suggest — a "flop of exhibitions".

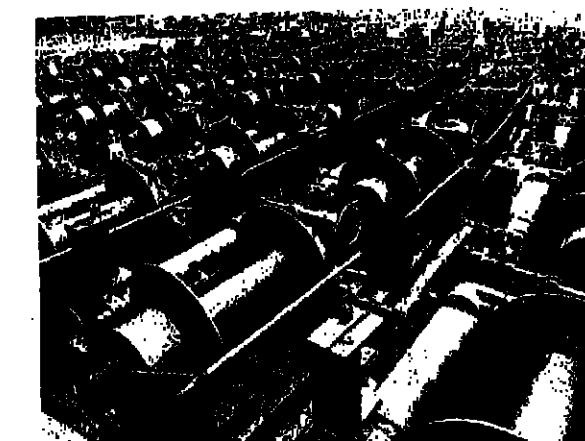
PETER HJUL

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SPAIN'S LEADING MANUFACTURERS AND SUPPLIERS OF HYDRAULIC DECK GEAR THROUGHOUT THE WORLD



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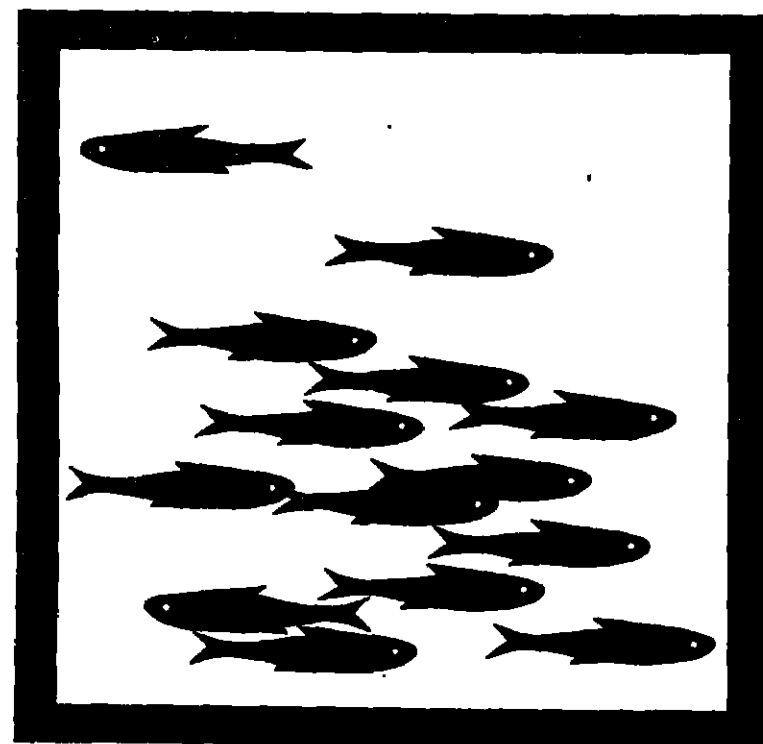
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British hospitals revive fish quality checks



A WFA food technologist checks a batch of fish samples for quality

BRITISH hospitals will be able to make sure they are serving fish of the right quality to patients, thanks to the revival by the White Fish Authority of its Advisory Inspection Service.

Shortage of funds for research and development forced the WFA to suspend the service in 1976. It has now been revived on a cost-recovery basis through contracts awarded by the

Department of Health and Social Security in England and the Welsh Health Technical Services Organisation.

Fish does not feature strongly on the institutional catering menu in the United Kingdom. Last year, for example, the Prison Service halved its yearly order.

The WFA therefore regards it as significant that the health service in England and Wales is prepared to pay for regular checks on the quality of the fish they use.

Britain's hospitals provided about 1,750,000 meals a day for patients and staff and the market in England and Wales alone is estimated to be worth around £95 million a year.

Before the first introduction of the service in 1970, purchase specifications for different species and products were drawn up by the WFA working with the Herring Industry Board and Torry Research Station. These specifications were based on the

quality scoring system of Torry's Taste Panel.

They have now been updated and published in booklet form. Widely distributed among education and health authorities, they provide useful guidelines to purchasing officers.

From 1970 to 1976, the WFA Advisory Inspection team ran a back-up service for the specifications

Suspension

Until shortage of money forced its suspension, it made a total of 725 routine inspection visits free of charge.

Since 1976, every effort has been made to answer queries from catering and supplies officers and to provide more direct help in emergencies.

The WFA also continued its work in the institutional catering field by carrying out acceptability trials with new and underutilised fish, such as the blue whiting.

Chile waits for the new law

CHILE'S Under-secretary for Fisheries, Jose Radic, has confirmed that all authorisations for the operation of foreign fishing vessels inside the 200-mile limit will expire before the end of 1978.

Sixteen ships are presently permitted to work inside the limits. They are Korean, Japanese and Spanish owned.

Most of them were authorised under law D.L.500, which expired in December 1977. No further fishing permits have been granted since then.

The only vessels now allowed into Chilean waters are those contracted specially for resource research and exploratory fishing.

"Since the authorisations were granted for a one-year period, they cannot be renewed," said Mr. Radic. "We must therefore find a legal formula that will permit us to respond to the increasing interest in Chile's industry

GO-AHEAD FOR NEW INSTITUTE

A NATIONAL fisheries training and research institute for the development of inland fisheries is to be established in Pakistan during the financial year 1978-79.

The initial cost of the institute will be about Rs.10 million (£540,000).

The main station will be at Rawal Dam and there will be three other stations, at Lahore, Thattu and Peshawar.

These stations will carry out research on several different

species of inland fish and from this evolve methods to increase their survival rate.

Species from other countries will be introduced to help enhance natural stocks.

Training is to be provided for fisheries department officials and fish farmers.

Fishermen are to be taught to increase catchable stocks through fish rearing.

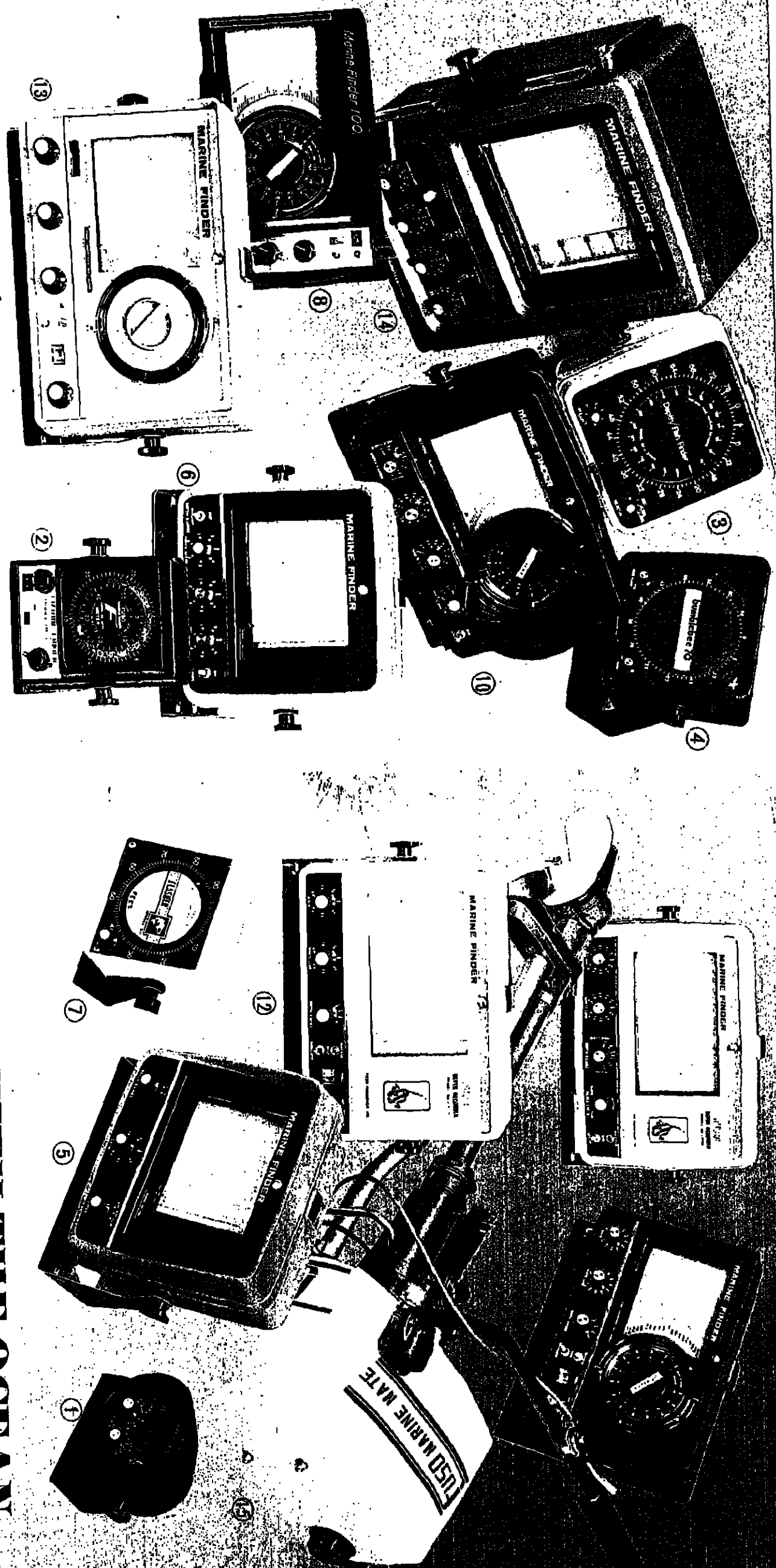
Ponds and canals in Pakistan are believed to offer wide scope for increasing fish output. Inland production is now around 25,000 tons a year.

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- MODEL MF-4N**
"A Striking Flashing type"
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Battery: DC 12V
Output Power: 40W
- MODEL MF-50S**
"Get a big gain by portable machine"
Straight Line Recording
Depth Range: 0 - 50m, 0 - 100m
Frequency: 200 KHz
Beam width: 14°
Battery: DC 12V
Output Power: 60W
- MODEL MF-60S**
"Straight Line Recording type to use at shallow water"
Depth Range: 0 - 100m, 0 - 200m
Frequency: 50 KHz
- MODEL MF-511**
"Ordinary type"
Best applicable for Yacht sailing
Depth Range: 0 - 30m
Frequency: 200 KHz
Beam width: 17°
Battery: DC 12V
Output Power: 30W
- MODEL MF-100**
"Self attached, easy to carry"
Flashing & Circle Line Recording
Depth Range: 0 - 130m, 0 - 260m
Frequency: 200 KHz
Beam width: 17°
Battery: DC 12V or 1.5V x 8
Output Power: 60W

- MODEL MF-100S**
S.T.C. (Sensitivity Control) set inside and
Straight Line Recording type exactly to
catch a fish without fail
Depth Range: 0 - 30 - 60 - 90m
Frequency: 200 KHz
Beam width: 17°
Battery: DC 12V or 1.5V x 8
Output Power: 60W
- MODEL MF-300**
Most Supreme Depth finder among
Flashing & Circle line recording types.
Depth Range: 0 - 130m, 0 - 260m
Frequency: 200 KHz
Beam width: 17°
Battery: DC 12V or 1.5V x 8
Output Power: 60W
- MODEL MF-300S**
Preferable to Professional
Straight Line Recording type equipped
with every device
Depth Range: 0 - 50 - 100m
Frequency: 200 KHz
Beam width: 17°
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Output Power: 100W
- MODEL MF-1500**
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Strong support for US Fish Expo

NATIONAL Fishermen Expositions Inc. report strong support from companies in the United States and abroad for the 12th annual Fish Expo in October.

Fish Expo 78 will be in Boston and will take place in the John B. Hynes Veterans Auditorium from October 25 to 28.

Records

The showing in 1977 in Seattle set new records for this well-established regular exhibition.

Like previous Fish Expos, the Boston show will include a full programme of seminars and workshops.



Fisherman George Lethlean with two Murray River crayfish ready for the pot.

IN ITS various forms — Procambarus, Astacus and others — the freshwater crayfish is a ubiquitous animal found or grown in waters all over the world.

There is even an Institution of Astacology which each year runs a lively symposium on freshwater crayfish. In 1977 it was held in Sweden. This year it will be in Thonon les Bains in France on August 28 and 29.

One of the flourishing fisheries for crayfish is in northern Victoria in Australia.

Each year thousands of part-time fishermen spend long winter days on the River Murray and its tributaries, setting nets for a species known to its catchers as the Murray crayfish.

Catches are cooked in a large cauldron of boiling water that is well salted and laced with wine.

Drying station plan approved

A FISH curing yard and station is to be set up soon in the Panadura area in Sri Lanka.

This will be equipped for natural and mechanical drying of various species. And it will be linked to a dried fish distribution centre.

The project was proposed by Dr. Neville Fernando, MP for Panadura and was recently approved by Minister of Fisheries Festus Perea.

Another addition to facilities for the local fishing community is a new centre for fishing equipment sales and fisheries office in Wadduwa.

Pakistan project talks

LARS ENGVALL, manager of FAO's small-scale fisheries project in South-east Asia, spent four days in Karachi last month discussing plans for the development of marine fishing in the Sindh province of Pakistan.

A project will soon be started there by the provincial government in collaboration with FAO and the UN Development Programme.

It will cost £375,000 and is intended to boost fish production by ten per cent and earnings by 20 per cent.

NOW MALTA CLAIMS A

WIDER LIMIT

but only out to 25-miles

THE Maltese Parliament has approved a bill which will extend the island's territorial waters from six to 12 miles, and the fishing zone from 20 to 25 miles.

Moving the bill, the Deputy Prime Minister said extension of territorial waters for fishing

purposes would soon be a thing of the past because fishing rights will be incorporated in rights exercised within the economic zone.

Prime Minister Dom Mintoff said that, while the island's exclusive fishing zone would be larger than that claimed by

neighbouring countries, it should be realised that Malta has smaller fish resources.

He added that the agreement with Libya under which fishermen of both countries could fish in each other's waters was generous of Libya and very advantageous to Malta.

The zone had to be extended because Malta had not concluded similar agreements with other neighbours.

Signed

Meanwhile, the Sighana (Fish and Get Rich) agreement between Malta and Libya had now been signed.

This sets up a company which is expected to build up a fleet of 16 trawlers. These will be allowed to fish in the waters of both countries.

Each country will put in about £2 million to establish the company. Malta's share will come out of a loan from Kuwait.

FRENCH PLAN EXHIBITION

THE LARGE GERP-SEPIC exhibition and conference company is planning an international fisheries exhibition in France in June 1979. The venue will be the modern exhibition site on the banks of the River Loire in the city of Nantes. It will take place from June 6 to June 11 and will be spread over an area of 15,000 sq. metres.

"Our aim," say the organisers, "is to bring in 200 firms and to welcome 7,000 to 8,000 visitors. Nantes, on the Atlantic coast, is a crossroads for two-thirds of the French fishing industry. It also has a leading position in research with its Scientific and Technical Institute for Sea Fishing and its University."

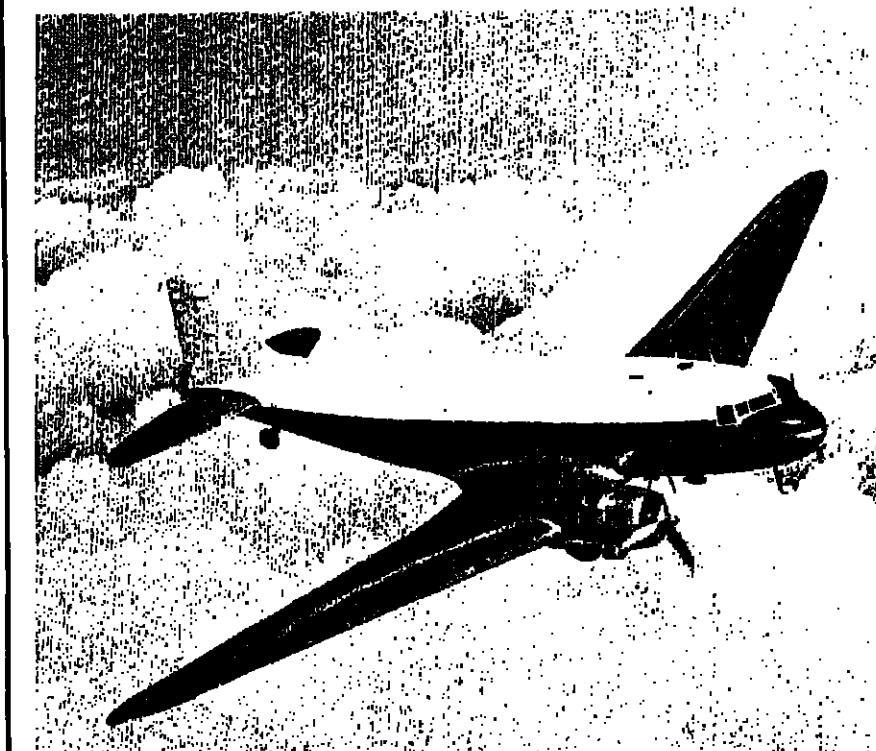
Subjects to be covered include aquaculture; vessels, builders and designers; marine engines and propulsion systems; fish finding, gear handling equipment and nets and other catching devices; clothing, and hardware.

It is also planned to have a substantial section devoted to processing, distribution and packaging.

Seminars dealing with many aspects of fish hunting and with fish farming will be organised in conjunction with the exhibition.

Further information can be obtained from the International Exhibition on Fishing and Allied Industries, GERP-SEPIC, 40 rue du Collège 75381 Paris, Cedex 08.

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CARRYING THE TOWERS TO THE TOWERS

A NEW air charter facility for fishing vessel operators has been announced by a UK-based airline.

Lease Air-Eastern Airways of Humberside Airport has bought two Douglas C-47 Dakotas, believing that there is a need in the industry for larger types than the average "taxi" aircraft.

The veterans are equipped with a large cargo door and each can carry 3600 kilos of freight or 36 passengers.

Eastern Airways has several years' experience flying crew-changing trips and spurs support for detached base fishing operations. It says that the new aircraft will allow trawler owners to base their vessels anywhere in Europe or Scandinavia, with the ability to make a full crew change in 24 hours and provide engineering support.

Better no policy than a bad policy

THE BRITISH fishing industry provides an interesting illustration of a new domino theory in operation, comments the White Fish Authority in its latest annual report released last month.

The weight of excess fishing effort shifts from one species to another, and stocks of herring, mackerel and fladdock become successive targets of attack.

There is a clear need for an effective fisheries policy within the European Economic Community to regulate this fishing. But the CFP which had greeted

Britain on entry to the Community was too manifestly unfair for continued acceptance.

Therefore, although it is worrying to be without an agreed common policy, the industry has remained resolute in support of Fisheries Minister John Silkin's conviction that it would be still worse to have a bad agreement.

Meanwhile, confused protective measures have been adopted to alleviate the dangers threatened by lack of agreement. The EEC Commission's only unqualified success has been in heavily reducing the fishing effort by non-Community countries in members' economic zones.

Apart from this, "there is nothing to be said for the common fisheries policy in its present state of disarray". There is also, the report adds, justified scepticism over the Commission's ability to administer effective measures of conservation even when an agreement is reached.

Formidable

"Furthermore," it continues, "little thought seems to have been given to the question of how the policy can possibly be adapted to accommodate the entry of Spain, Portugal and Greece."

"Spanish fishing power is formidable and it has been permitted to grow in recent years when every indication was suggesting restraint. The entry of these countries would almost double the tonnage of the Community's larger fishing vessels and, in our view, it is absurd to suppose that the principle of equal access, which bedevils relationships among existing members, can be extended to the newcomers."

Switching from meal

INDUSTRIAL fishing companies in Chile have been making plans for new investment in catching gear and in processing plant.

Companies located in the northern ports of Antofagasta, Iquique and Arica, in particular, are reorienting their plants away from meal and towards greater use of catches for direct human consumption.

Also in the planning stages, and further, are several deals with foreign investors to develop production based on species such as jurel (horse mackerel), sardines and chancharro (ocean perch) for freezing and canning.

One major company, Pesquera Iquique, was recently bought by the state by Epervo-Indo using capital provided by a Nigerian fishing company.

Up to the end of May this year, fishing in Chile's northern zone yielded catches totalling 544,000 tons. This total is well up on the 310,000 tons for the same period of 1977.

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PRINCE CHARLES AND THE COMMUNITY



Prince Charles inspects kits of cod from the St. Gerontius on auction at Hull and Chata (right) with Sid Ellerington, chairman of Hull Fish Merchants' Association, and a fish filleter

MEANWHILE . . . BACK IN

Dickensian Billingsgate

PRINCE Charles on Humberside. Fisheries Minister John Silkin at Billingsgate. Venerable but creaking institutions of the British industry came under the spotlight last month during two well-publicised official visits.

On Humberside, for the visit of the Prince of Wales, gardens were weeded, buildings cleaned and ships painted. But the Prince, who closed his service in the Royal Navy in command of a fisheries protection vessel, appeared well-briefed. He must have noticed all the signs of the run-down of distant water trawling — once the mainstay of Hull and Grimsby.

In the Hull auction hall he saw the landing of one trawler on offer. Hamling's *St. Gerontius* was the only British vessel bringing in her catch. She had been on a 23-day voyage to the White Sea/Bear Island area. Her 67 tons went for £29,426 — £44 pf it bid by Prince Charles for one 140lb kit of cod.

Visited trawler

He came in by train at 7 a.m. and spent four hours in the port. During his trip, he breakfasted at the Hull trawler owners' dockside club, went over Murr's freezer stern trawler *Junella*, and inspected the White Fish Authority flume tank.

Shortly before midday a helicopter took him over the Humber to Grimsby, where he started with a luncheon in the College of Technology before going to the fish docks.

Minister Silkin was another early starter when he toured the big Billingsgate market in London later in the month. There have been strong attempts recently to get the market moved to a site more suited to the needs of the modern fish trade.

Mr. Silkin supported these attempts after his tour. Conditions in Billingsgate were "Dickensian," he said, adding that the move should probably have been made 100 years ago. "But, as I am told fish has been traded here for around 1,000 years, I suppose we can wait a year to make sure the move is to the right place."

In contrast to the gloss put on Humberside, Billingsgate was its normal chaotic self for the Minister.

Saying he was glad Mr. Silkin was able to see how and where merchants were having to work, the London Fish Merchants' Association chairman endorsed the Minister's remarks.

"Our trade," he said, "is being held up by the appalling traffic conditions and the shortage of space inside and around the market. The sooner we get to the proposed new site at the West India Dock the better."

One aspect of Billingsgate which did impress Mr. Silkin was the range of fish it offered and its versatility in providing for the immigrant communities of London.



Impressed by the variety Minister Silkin at one of the Billingsgate stalls

Campsite canners curbed

FISH conservation or tourism, which comes first? The question is being asked in British Columbia, where tourist promoters and campsite owners are objecting to a new Canadian government ruling that allows a United States visitor to have only 25 lb of canned salmon in his possession.

A survey by fisheries officers last month showed that 129 non-resident fishermen had 13,260 lb of canned salmon — an average of

103 lb each. One tourist had 920 lb.

"We believe some Americans take thousands of pounds of salmon out of British Columbia each year," said High Anderson, MP, parliamentary secretary to Fisheries Minister Romeo LeBlanc.

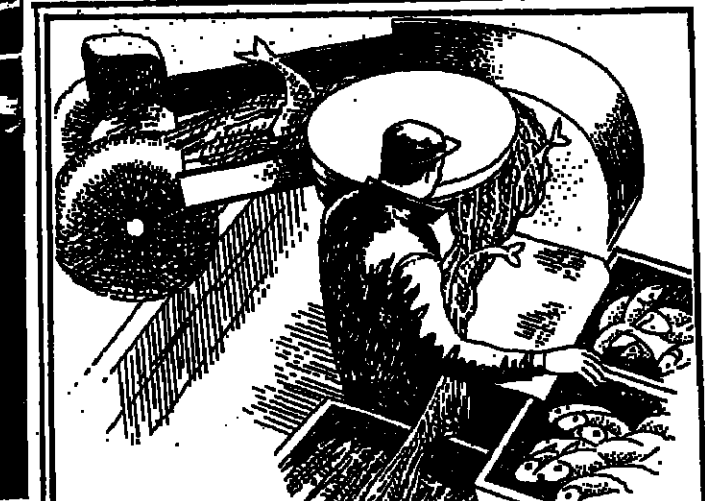
"They are not sports fishermen; they are commercial canners. They could not possibly eat the amount of fish they have canned. They obviously sell it."



Prince Charles in the wheelhouse of the freezer stern trawler *Junella* with Skipper Michael Keillor



Dickensian Billingsgate during the visit last month of Fisheries Minister John Silkin. It is planned to move the market from its present site in the City of London to a less congested area at West India Docks



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POLAND PAYS THE PRICE OF WIDER LIMITS

Less cod, herring, hake, mackerel...

PROBES into Antarctic waters, a joint venture in Peru and a supply arrangement with a company in Canada have helped to cushion the Polish fishing industry from the full impact of its loss of fishing areas through 200-mile limits.

Poland has developed over the past 20 years into one of the world's leading distant water fishing nations. At around 800,000 tons in 1976, her total harvest may seem small in comparison to that of such giants as the Soviet Union and Japan, but nearly 75 per cent came from the activities of her distant water fleet.

Between 1976 and the end of 1977, the four high seas enterprises operating the fleet added another 12 modern factory stern trawlers to bring it up to 93 ships. In the same period they scrapped 22 of their 33 side trawlers.

Sea catch

The fleet is deployed round the world, but in 1977 it had to make considerable changes in the areas it fished and in the species it caught.

From 776,316 tons, the sea catch fell to 709,028 tons. This fall was not confined to distant water fisheries. The catch of the Baltic fleet was down by 30,000 tons to 170,000 tons.

But in the north-west Atlantic, the catch slumped

OUT: Polish steam side trawler in the North Sea. Twenty-two of these ships were taken out of service in 1977

from 125,488 to 56,005 tons, and in the north-east Atlantic, as the EEC limits went out to 200 miles, from 124,532 to 26,777 tons.

To make up for these sharp declines, Polish ships had to increase their effort in the eastern central Atlantic (up from 129,412 to 203,429 tons) and the south-east Atlantic (up from 113,026 to 132,635 tons).

The most remarkable increase, however, came through the Polish development work in waters in the far south. The catch reported for the south-west Pacific jumped from 660 tons in 1976 to 29,285 tons in 1977. This included *Nototthenia* and probably related species which the Poles list as *Georgina* and *Kerguelena* and "other fish" totalling 22,000 tons. And the catch of Antarctic krill jumped from 575 tons to 7,000 tons.

The joint venture operation off Peru showed an improvement and helped push the catch in the south-eastern

Pacific from 50,011 to 64,517 tons. In Canada, a supply arrangement with Nickerson in Nova Scotia provided 6,401 tons of the dwindling north-west Atlantic catch.

Lower value

One unfortunate result of the need to seek out alternative areas and fish is the fall in some of the more popular species and their replacement by species of much lower commercial value.

As an example, the cod catch fell from 101,378 to 58,426 tons, and 47,702 tons came from the near water catch in the Baltic Sea. Herring fell from 84,953 to 60,670 tons, with all but 486 tons coming from the Baltic. Mackerel fell from 82,748 to 25,975 tons, and hake from 131,433 to 117,826 tons.

On the other hand, catches of other clupeids rose from 3,696 to 53,730 tons, horse mackerel from 58,732 to 79,663 tons and sardine from 106,692 to 133,774 tons.



IN: This modern B-418 class, 89-metre long ship is one of 93 factory trawlers in the Polish high seas fleet



FILLETING a cod catch in a Polish factory. More than 80 per cent is from near water vessels

King crab factory in Southern Chile

A MODERN cannery to process a variety of seafoods is to be set up on Navarino Island in the far south of Chile.

The project was announced by Jose Camello, manager of the company Pesquera Magallanes in Punta Arenas, Argentina. Pesquera Magallanes will build and manage the new factory.

Navarino Island (55 deg S) is directly south of the Argentine territory of Tierra del Fuego. It lies close to important grounds for centolla (king crab), merluza de cola (grenadier), and several other species with commercial potential.

The new plant will cover an area of 1000 sq m. It is expected to provide jobs for 400 fishermen and factory workers.

In addition to the cannery, the company is to erect a small village with 35 houses, a school, first-aid station and other services. The cost of the project will be about US\$8 million.

Fishing will be done by a fleet of 15 small vessels being constructed by yards in Buenos Aires. Part of this fleet has already been completed and the 22-ton boats are anchored near the company's main plant in Punta Arenas.

The Navarino Island factory will concentrate on processing king crab. The company expects to develop exports to the United States and France.

Construction of the factory will start in October and it is expected to be in operation by mid-1979.

QUARRYING THE PORT...

BUILDERS at Kholmsk on Sakhalin Island in the Soviet Far East are constructing a fishing port by open-cut quarrying.

They have constructed an earth dam across the bay and behind it they are digging, using bulldozers, excavators and trucks. The fact that the Tatar Straits are fairly shallow and the sides

of the bay are suitable made the method possible.

First, the water was pumped out from behind the dam. Then, with savings in time and money, the port construction began and has been going ahead around the clock even in stormy weather.

SOUTH KOREAN SURVEY BEGINS

A SOUTH Korean fishery research ship sailed from Pusan in July on a five-month survey of resources in the North Pacific.

She is to examine bottom fish stocks and fishing conditions in the East Bering Sea and off the Gulf of Alaska. Her programme ends on November 30.

Much of the data taken by the ship is to be referred to the United States in an effort to promote fishery co-operation between the two countries.

New Zealand opens door to Japan...

REPRESENTATIVES of the Japanese government and fishing industry arrived in New Zealand towards the end of July to negotiate a fishing agreement similar to those already made with the Soviet Union and South Korea.

Earlier (on June 29 and 30) New Zealand Prime Minister R. D. Muldoon and the Japanese Minister of Agriculture and Fisheries, Ichiro Nakagawa, had met in Wellington to discuss the critical trade issues which had caused a rift between their two countries.

Frustrated in her attempts to gain continuity of access to the Japanese market for a wide range of her primary products, New Zealand had reacted against Japanese fishing vessels. From April she had refused to license them to work inside her new 200-mile economic zone.

After the June discussions, however, a statement was issued saying that negotiations aimed at allowing Japanese vessels back into NZ waters by the end of 1978 would begin in July. In return, Japan had made a serious commitment to increase imports of meat and dairy products from New Zealand.

Commenting on this, *FNI's* New Zealand correspondent says that while it would appear that the proposals from the Japanese side do not meet all the requests by the NZ government, there is a better understanding by Japan of New Zealand's need for more stable trading conditions for her exports.

Not subsidised

Mr. Nakagawa noted that NZ dairy products were not subsidised. New Zealand, he said, was the most important and reliable supplier of dairy produce to Japan.

In anticipation of some eventual agreement, the NZ government had set aside a reserve of fish for allocation to Japan. This is thought to be around 90,000 metric tons.

KEY TRADE TALKS BEGIN

including allocations for squid and tuna.

Although the quota for trawl-caught fish is likely to be well below what Japanese vessels took last year, that for squid may be closer to the previous haul.

Meanwhile, the licensing of other foreign vessels to work inside the 200-mile limit has already begun to create some problems for the local industry.

According to trade sources supported by the Fishing Industry Board, NZ fish taken by Korean and Russian trawlers has been marketed in competition with NZ exports in third country markets.

Industry members allege that South Korea has been selling fish in Japan at little more than the cost of freight, these fish from New Zealand by normal sea transport.

Salmon imports replace catches



Preparing salmon roe for salting in a US factory

THE Japanese fishing company Kyukuyo is increasing the import of salmon, trout and other marine products from its subsidiary in the United States, Whitney-Fidalgo Seafoods.

Kyukuyo suffered a decline in supplies from its own vessels because tightening of salmon controls and quotas forced it to keep a 14,000-ton mothership out of the waters off Hokkaido.

It will double imports of salmon and trout from Whitney-Fidalgo from about 1,500 tons to 3,000 tons. It will also double salmon imports from off the Alaska coast. And it will buy 500 tons of salted salmon roe and 3,000 tons of tanner crab.

Kyukuyo acquired Whitney-Fidalgo in 1973. The Seattle firm packs salted salmon and herring roe for export to Japan.

SEARCH IN THE SOUTH

CHILE'S Corporation of Production Development (CORFO) has signed an agreement with the Japanese Marine Resource Development Centre (JAMARC) for research into the possibility of developing the exploitation of fish and shellfish resources in southern Chile.

Among the aims of the study project is the assessment of the distribution and approximate abundance of the main species in the southern coastal zone and the environmental conditions where these species are.

Landed

In another project already underway in southern Chile,

the Japanese company Nichiro recently landed 1,000 kilos of different fish, from initial exploratory work, at Aisen.

The fish were taken by the *Nishin Maru No. 3* and included mackerel, conger eel and saury. They were distributed to regional hospitals, schools and nurseries.

Started

Nichiro began operations in mid-May. Its ship is allowed to carry out bottom trawling, long lining and other methods and may catch up to 40 tons of raw material for processing.

Thirty per cent of production can be exported to Japan as samples. The rest has to be delivered to the regional government for distribution to institutions in the area.

Next round in Svalbard dispute

NORWAY'S Law of the Sea Minister, Jens Evensen, goes to Moscow this month in a further effort to resolve the dispute between Norway and the USSR over fishing waters around Svalbard (Spitsbergen).

The USSR has consistently refused to recognise the "conservation zone" imposed by Norway in June 1977.

Main issue under discussion will be the Soviet Union's refusal to report on catches from the conservation areas.

Norway has now decided to send figures of catches in the Svalbard area to the USSR and to the EEC Commission in Brussels.



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It has been said that mackerel could only be seen on high frequency sonars. This has been proved wrong, particularly by Mr. Tom Stevenson of 'Green Field' and Mr. Alan Nicholson of 'Pescosco II'. The skippers of 'Green Field' and 'Bedouin' were also among the first to detect mackerel on their SQ sonars at 1200 to 1750 m, and other fish at the full 2500 m.

Mr. Stevenson (SQ sonar) is very impressed with the large CQ scope. Its memory store gives a steadier picture, making it easier to determine the size, shape and direction of the shoal. "A lovely picture" he said, "a big advance on existing scopes. It gives good returns at 2500 m, with mackerel at 1250." He also liked the master/slave facility and very short ranges provided.

Mr. Nicholson was the first to try out a modification to the SL sonar which greatly improves fish detection, especially mackerel. "I'm very pleased with this" he said. "I'm getting mackerel a 1500 m. by day and 800 m. by night." He was also delighted with the new CQ scope, particularly its definition, master/slave facility which saves paper, and the offset arrangement.

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OIL AND FISH IN THE NORTH SEA

OIL and fishing are mixing in the North Sea better than was first expected. This is one of the findings of a working party set up two years ago to look into conflicting interests in the Norwegian sector.

Now that the initial oil exploratory phase is over as well as the so-called "pioneering period," the group is much more optimistic about contacts with fishing.

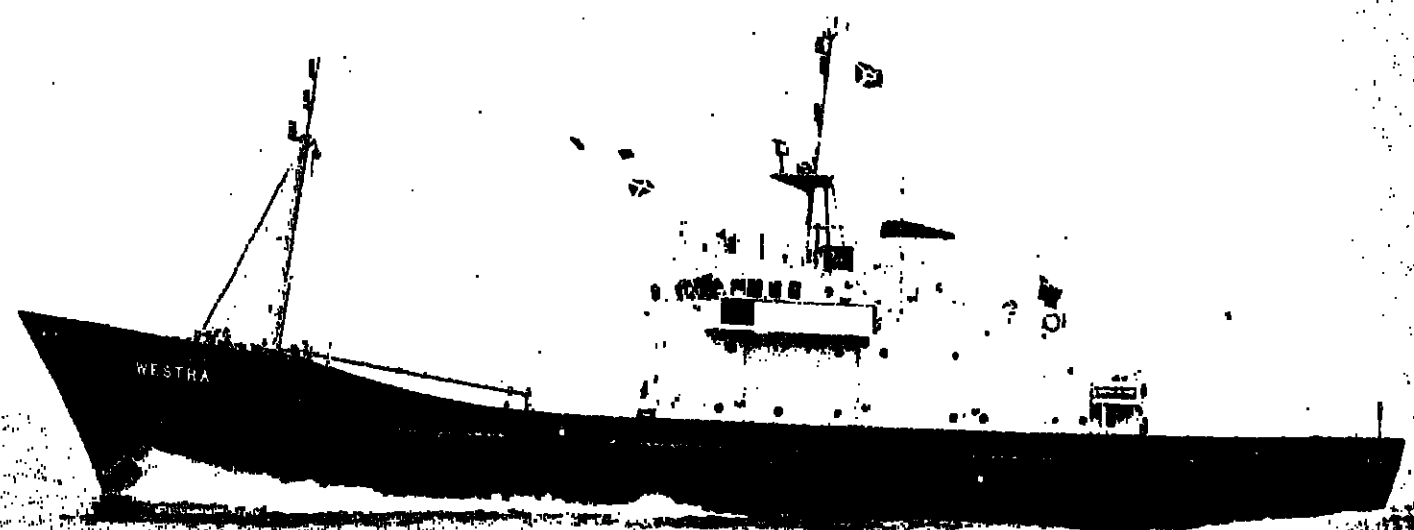
But several necessary measures have still to be applied.

Clearing up

They include clearing up the seabed around drilling areas, further prevention of dumping through legislation, adequate compensation for fishermen, and more contact between the two industries.

To clean up the whole of the continental shelf may be too large a project, but the group recommends that work should begin in a small area where practical methods for cleaning the seabed can be tried out.

The working party would also like the authorities to take a stricter line with oil companies who do not follow the rules about clearing up after completing drilling.



BRITISH NAVY SMILES

ON 'ISLAND' PATROL SHIPS!

THE ISLAND class patrol ships, designed and built to help Britain cope with the extension of fishing limits out to 200 miles, have turned out to be "very satisfactory," according to the Royal Navy.

Two more have been ordered to provide greater flexibility in the use of existing vessels. Crew are to be supplemented to avoid fatigue as it is intended that the vessels will spend 60 per cent of their time at sea.

Four zones

Extension of limits gave Britain a total of some 275,000 square miles to patrol, divided into coastal and offshore zones. The Island class ships patrol in three of the four areas and the aim is to have

three ships constantly at sea. When they came into service, the ships were criticised for their speed of 17 knots, which was said to be too slow. The 195 ft (59.45 metre) long vessels are each powered by two 2,000 hp British Polar diesel engines driving a single controllable pitch propeller. They were built by the Hall, Russell yard in Aberdeen.

The navy has found that speed is not the problem it was feared to be. Few vessels try to escape and the ships have seldom to be driven at their full speed.

In June the British Ministry of Defence announced that an order had been placed with Boeing Marine Systems for a Jetfoil. When delivered, this vessel will be evaluated by the navy for fisheries protection service.

SCIENTISTS and diplomats from 13 countries who are signatories to the Antarctic Treaty assembled in Buenos Aires last month to draw up a Convention on the Conservation of Antarctic Marine Living Resources. The aim of the 90 delegates was to try and get a system of management of the resources, particularly krill, before test fishing in Antarctic waters develops into full-scale commercial operations.

Expected to last about three weeks, the meeting was intended to agree on the draft of a Convention to be signed at a conference to be convened at the end of 1978.

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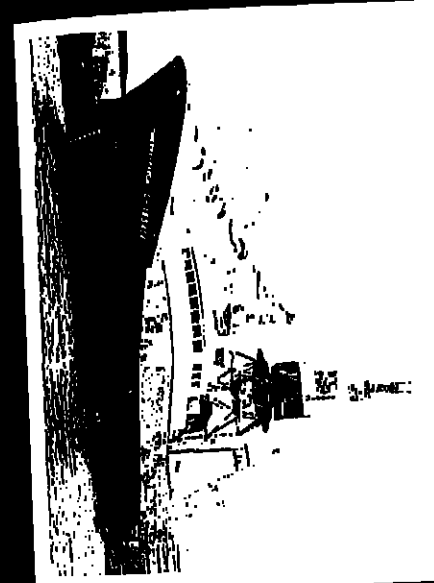
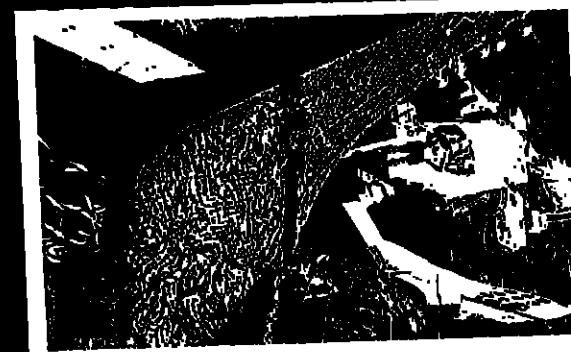
Having one searchlight is like being half blind, and the half you don't see could be a whole disaster. It is safer to have two searchlights so that dangerous blind spots are removed.

When a man goes overboard, he can't choose which side, and with only one searchlight, it could be a choice of life or death.

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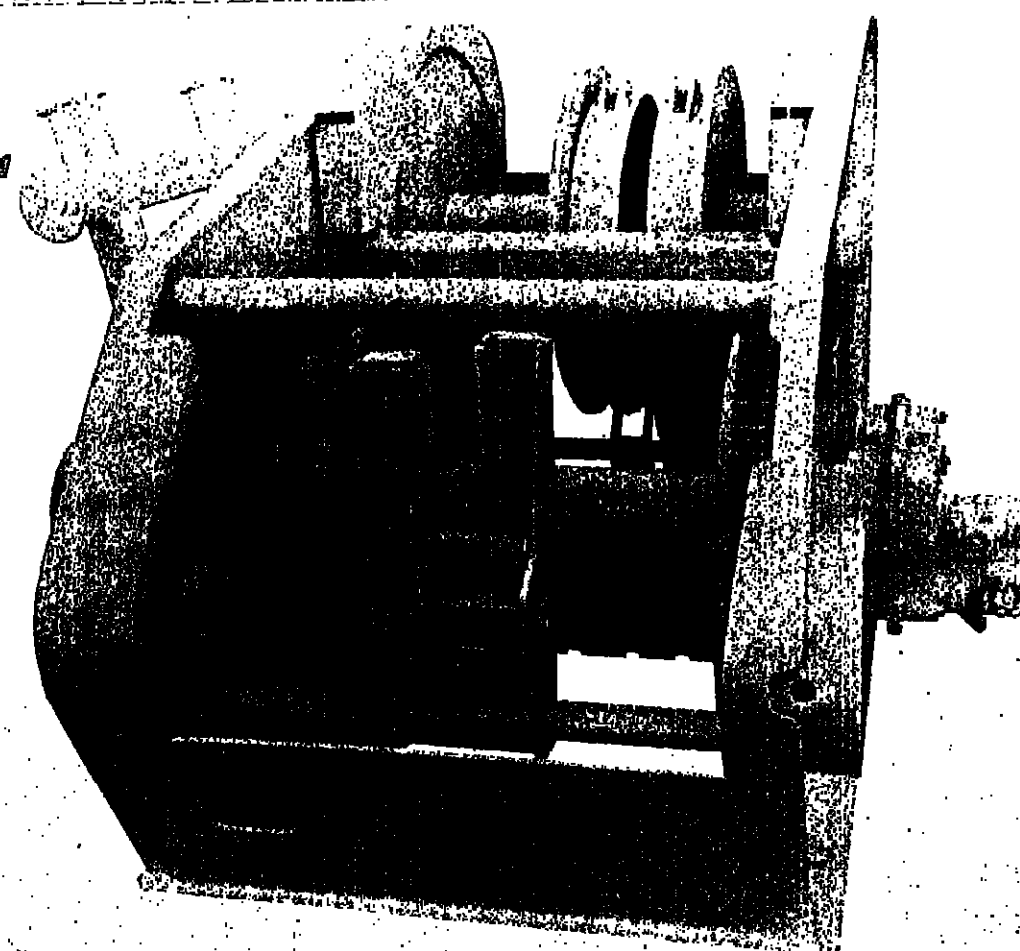
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OCEAN RANCHING and aquaculture expert Dr. Colin E. Nash has joined the Seattle consulting firm Kramer, Chln and Mayo (KCM) to manage its applied sciences group.

Born and educated in Britain, Dr. Nash was engaged for several years in marine farming with the White Fish Authority. He then went to Hawaii where he was research director of the Oceanic Institute.

His recent work has included the planning and development of international aquaculture centres, particularly for developing countries.

He will operate out of KCM's headquarters in Seattle and will lead the firm's intensified efforts in research and development. KCM's present work involves practical

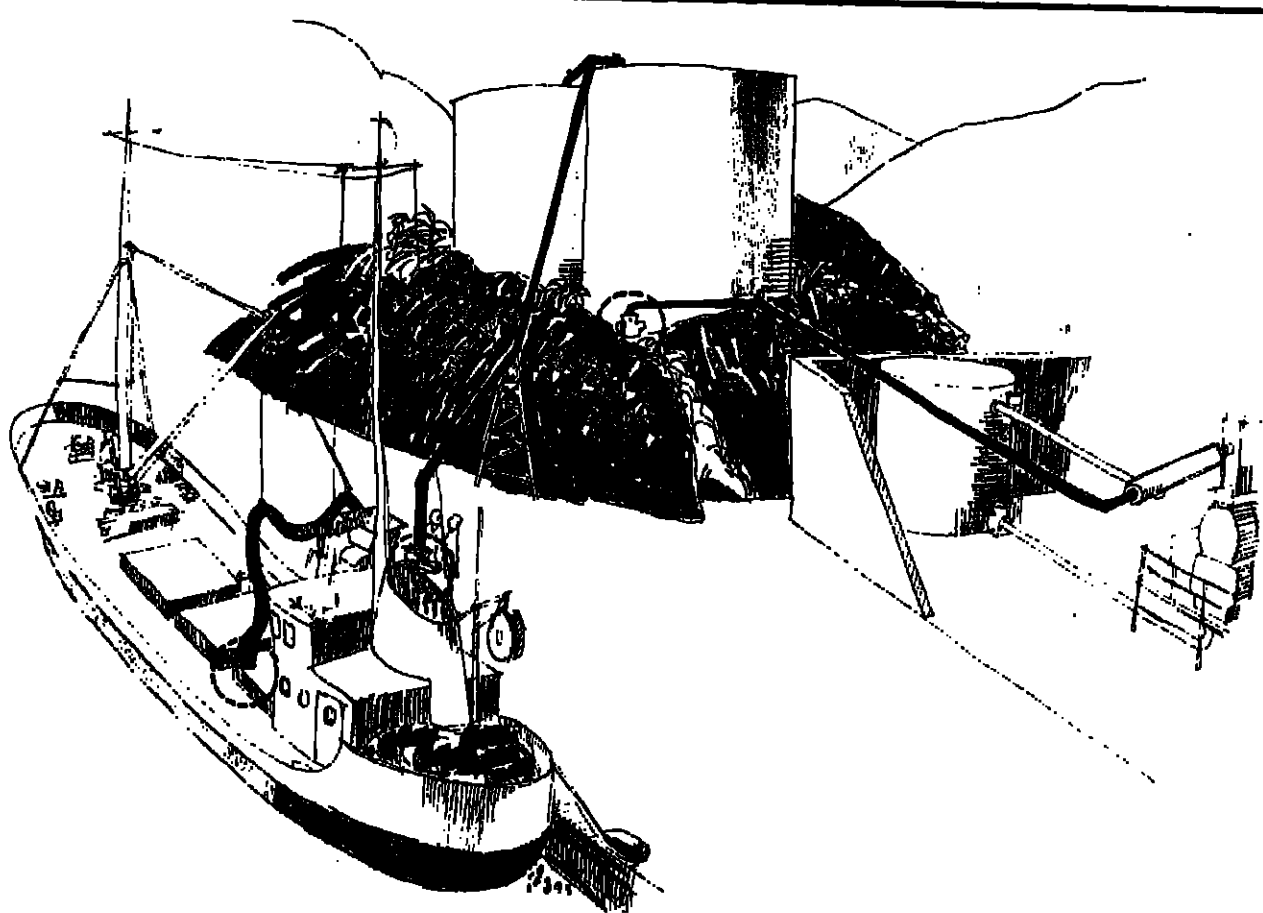


Dr. COLIN NASH: New role

application of its studies in fisheries enhancement and management, as well as connected research in solar heating and waste water treatment technology.

KCM's new chemistry and fish culture laboratories will provide additional testing and research capabilities.

ANALYSING TWO REMARKABLE—AND Atlantic salmon in Argentina



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SOLVING PROBLEMS IS OUR BUSINESS

SMALL COLONIES of landlocked Atlantic salmon are thriving in Tierra del Fuego in the extreme south of Argentina, reports Dr. Timothy Joyner.

According to Argentinian fish and game official Dr. Pedro H. Bruno Videla, these salmon are descended from a landlocked stock in Sebago Lake, Maine, USA. Some fish were introduced from there to a lake on the eastern shores of the Andes. And, in 1935 and 1937, a hatchery at San Carlos de Bariloche sent fertilised eggs from which the salmon were raised and planted in Lago Yehuin in Tierra del Fuego.

Today, there are self-sustaining populations of "Salmon Sebago" in Lago Yehuin, nearby Lago Fagnano and several rivers in the locality.

Growing to sizes of four to six kilos, they are taken mainly by sports fishermen but they are seen to point the way to further developments in salmon seeding in southern waters.

Between 1906 and 1908, several attempts were made to acclimatise sea-going salmon introduced from Argentina's penultimate southern territory, Santa Cruz. None succeeded.

Recently, spurred by the enthusiasm generated by sports fishermen for the landlocked Sebago variety, Dr. Bruno Videla has begun a new attempt to introduce sea-going stocks.

A hatchery has been set up six km from the town of Ushuaia in Tierra del Fuego. It is sited on the banks of the Rio Olivia where it empties into the Beagle Channel.

In 1975, some 100,000 fertilised Atlantic salmon eggs were sent from Moncton, New Brunswick, Canada, to the Rio Olivia Hatchery.

In 1977, the 40,000 surviving fingerlings were planted in a number of rivers throughout Tierra del Fuego.

From Canada

In the same year (1977), an additional shipment of 83,500 eggs was received from Canada.

The greatest difficulty with the salmon rearing experiment in Tierra del Fuego arises from extended periods of cold.

In the winter of 1976, the temperature of the water being supplied to the hatchery did not rise above 0 degrees C for three months. This now only caused problems with freezing pipes, but produced very slow growth rates in the fry.

Since Ushuaia lies in the

Clue to seeding southern waters

rain shadow of surrounding mountains, it gets a substantial amount of winter sunshine. It is planned therefore to install solar heating equipment.

Small numbers

In evaluating this interesting experiment, comments Dr. Joyner, it is important to note that only relatively small numbers of fingerlings have been planted, and that these have been distributed thinly over a large area. The problem faced in seeding sea-going salmon stocks in virgin areas is quite different from that of seeding trout in lakes and rivers.

The environment of the trout is quite limited in its extent, and quite difficult for the trout to get lost in. The ocean confronting a salmon headed seaward is enormous, and can easily swallow up small populations not adapted to the peculiarities of regional current systems.

But, if these peculiarities are such that the sea-going salmon is confined, by boundaries of land and/or temperature, to a relatively small area in which plumes of fresh water from the coast of its origin can be sensed, then the salmon may have a reasonable chance of finding their way home again.

Such could be the case in southern Argentina.

SUCCESSFUL—FISH EXPERIMENTS



TOP: In California Jon Van Oist, director of the San Diego State University project, with an adult American (left) and a European lobster. Inset: One of the progeny of the cross-breeding, a 122 mm long, 60 gram juvenile.

Transatlantic mix in the lobster lab

HYBRID lobsters have been produced in California by cross breeding cobalt-blue European females with reddish-brown American males.

This hybridisation of the European *Homarus gammarus* and *Homarus americanus* is part of a major effort to develop a commercially-viable lobster culture system. Scientists think it may hold the key to the future of large-scale lobster farming.

The project is under the auspices of the University of California's Sea Grant College Program, with support from two public-utility

companies and the San Diego State University Foundation.

Lobster laboratories are in the west coast plants of utility companies and at Scripps Institution of Oceanography, University of California, San Diego.

The hybrids are a blend of their parents. The body shape and size resemble the European species, with larger and slenderer tails and pincers. The colour more resembles the American lobster; reddish-brown but with a pigmentation pattern intermediate to both parents.

Some of the hybrids are expected to reach maturity by next year.

Soviet Union farms trout in the Baltic

LOOKING to new sources of fish, the Soviet Union expects to harvest ten tons of trout from the Baltic Sea by 1980. This is a project aimed at developing "floating ponds."

Soviet studies are showing that trout fry develop faster in salt water than in fresh water. They are fed a protein diet made from waste and ground-up fish.

On average, a 100 to 300 gram trout grows to a kilo in weight in a summer season.

Floating ponds are being used by Soviet fish breeders in the Gulf of Riga and the bays of Tystaman and Kikusta for raising rainbow and brown trout, Baltic salmon and humpback salmon.

This project, however, is relatively small in the overall development of aquaculture and sea and lake ranching in the USSR.

Production of fish in ponds is expected to total 250,000 tons by 1980.

One interesting side development of the work is

that fishermen in the Volga have recently been taking fish never before seen in that river. They include a lumpfish, whose usual habitat is the Arctic.

Whitefish, whitebait, Black Sea bullheads and pipefish have also been caught, as well as large eels normally found only in the Baltic.

Fast propagating crustaceans are being introduced into the Volga to make sure that its fish continue to get the food to which they are accustomed.



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Phone-in check on fishing

FISHERMEN in the area under International Pacific Salmon Fisheries Commission jurisdiction can now telephone in to ask: "How's fishing?"

For years, the IPSFC has been test fishing at the mouth of the Fraser River and at the entrance to the Strait of Juan de Fuca to check on the numbers of sockeye spawners returning to the rivers of their birth.

Now, a special telephone has been installed so that fishermen can learn the results of the tests, thus helping them to know where runs of fish are located. The telephone gives out a recorded message 24 hours a day.

'We can build a better fishery

BOOM AHEAD

Phase out for subsidies as products hit record

RESOURCES, market returns and prices to catchers in Canada's Atlantic groundfish industry have so improved that special assistance payments to inshore fishermen are to stop in October.

Announcing this, Fisheries Minister Romeo LeBlanc said that during the past four years the Canadian fishing industry had gone through its worst crisis to the best prospects ever. The 1977 value of fish products was a record.

"We have successfully set new directions for the industry," he added, "and the road is leading upwards."

The Temporary Assistance Program

for the Canadian fisheries gave most of its aid to the Atlantic groundfish section, the biggest employer in the industry.

Firms which four years ago faced bankruptcy by last year had recovered enough to require no assistance payments. The grants programme for processors officially ended on March 31, 1978.

Fishermen taking groundfish (except fresh fish for export) have been getting deficiency payments of two cents a lb for first quality fish. But for trawlers larger than 90 tons these stopped for any trip begun after March 31.

Payments also stopped for all groundfish vessels in British Columbia.

than we've ever known...'

IN CANADA

For the remaining groundfish men the two cent payments go on until October 1. When the special assistance programme began in 1974, the Canadian fishing industry faced the worst crisis it had known.

Bankrupt

In the Atlantic groundfish industry, unusually high costs (stemming partly from the energy crisis of 1973), scarce fish, and poor markets had produced heavy losses and forced producers toward bankruptcy.

Other sectors of the fishing industry also faced grave problems. To prevent collapse of communities and widespread dislocation, the federal government authorised emergency aid to the groundfish and other sectors.

After a thorough inquiry into the Canadian fishing industry, the government approved in 1975 a new and activist fisheries policy, outlined in the document *Policy for Canada's Commercial Fisheries*. The aim was to build a stronger and more stable industry.

Foremost among actions undertaken was the achievement of the 200-mile limit.

The number of foreign vessels fishing off Canada shrank from more than 1,500 in 1974 to about 500 in 1977.

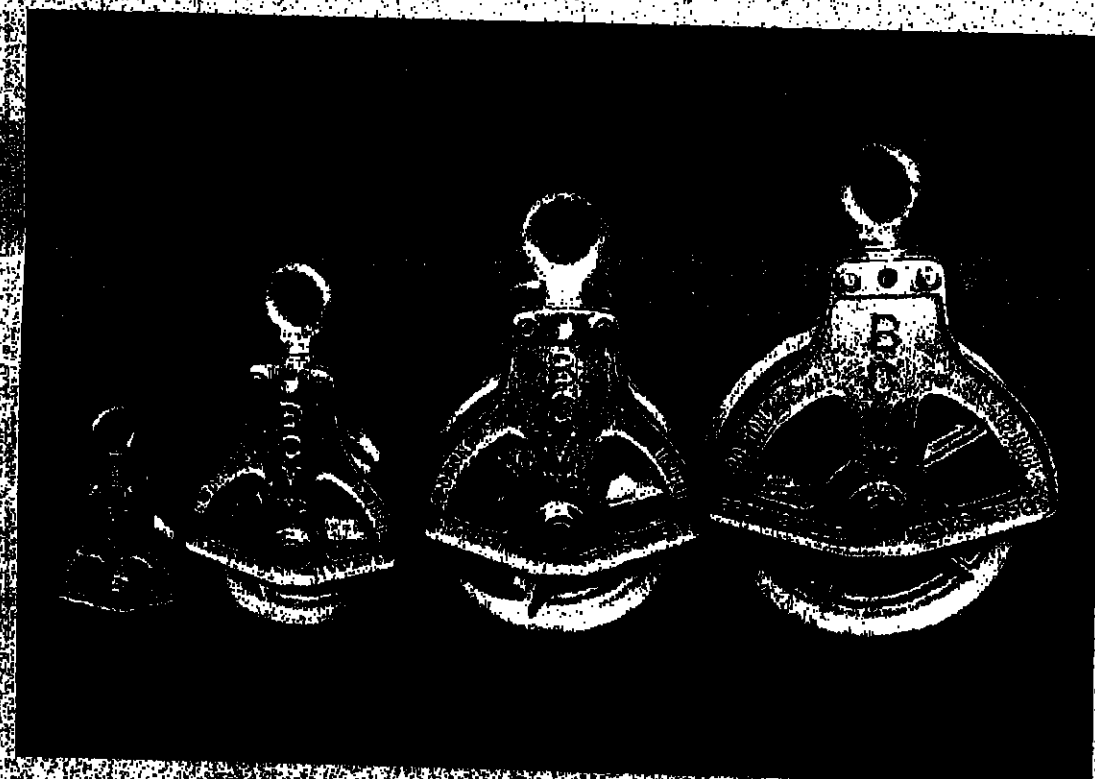
Other actions under the new fisheries policy included application of strict licence control to almost every major fishery.

"With good judgment over the next few years, we can build a better fishery than this country has ever known," said Mr. LeBlanc.



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"I think MOTHER NATURE wants us to fish some other area!"

Mystery of West Coast herring...

BRITISH COLUMBIA'S roe herring fishery in the early part of this year fell well short of the quota of 82,000 tons, and was 12,000 tons down on the 1977 season.

Commenting on this, *Facts on Fish*, newsletter of the Fisheries Association of BC, points out that the drop in catch was confined to one important area.

The difference, it says, was in Barkley Sound which had become the dominant, the most reliable, productive and colourful scene of roe herring action.

It adds that the mystery of the disappearance of the expected large shoals of spawning herring may never be solved. "Perhaps Mother Nature just wanted to provide one of her subtle reminders of who is boss."

The mystery was unique to Barkley Sound and both spawn and catch were healthy elsewhere along the BC coast.

While roe herring may be the most spectacular harvest of this section of the BC industry, the newsletter notes an impressive increase in the

longer-lasting fishery for food herring. From almost nothing three years ago, this improved to 6,580 tons in the season November, 1976, to January, 1977. And, in the latest season to January, 1978, harvest jumped to 20,000 tons with the bulk going to Europe as frozen product.

Through the whole of 1977, reports the journal *Western Fisheries*, herring landed in British Columbia rose 20 per cent in volume to 107,113 tons and 28 per cent in value to \$32.5 million. Total food herring production was up a remarkable 600 per cent to more than 40,000 tons.

To take full advantage of opportunities created by the recovery of west coast Canadian herring stocks and the market openings due to decline of herring catches in Western Europe, boatowners and shore processors are having to consider new technology.

Giving examples, *Facts on Fish* notes that not all BC purse seiners are equipped for slush ice handling which is desirable to maintain top quality.

Also, additional freezing capacity and new approaches to processing and packaging are indicated if processors are to expand and diversify the market.

Extended licence for B.C. salmon boats

THE LICENCES of 103 salmon boats in British Columbia are being extended by five years to enable them to continue fishing until the end of 1983.

The vessels are in the B category having been continuously owned by the original licensee since the Salmon Vessel Control Program was put into effect in 1969.

This programme, which set a life span of ten years for the B

licence, was aimed to improve economic conditions in the west coast salmon industry where too many boats were chasing too few fish.

All other B category salmon boat licences will expire either at the end of 1978 or at the conclusion of their ten-year life span. This involves some 480 vessels.

Since 1969, BC owners have had the option of changing from the higher category A licence to the B licence, which carries a much lower fee.

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EAST COAST... NEW SHRIMP LICENCES

CANADIAN Atlantic province fishermen wanting to participate in a new shrimp fishery this year will be allowed a total of 11 licences, and will be able to take up to 7,100 metric tons.

The fishery for pink shrimp has been identified in areas off Labrador and north-eastern

Newfoundland. Scientific studies and exploratory fishing in the areas during 1977 led to a federal government decision to allow stocks to be fished.

Five licences have been allocated to Newfoundland, four to the Maritime provinces and two to Quebec. Three of the five Newfoundland licences will be held in reserve for Labrador fishermen.

Explaining the reason for this, Fisheries Minister Romeo LeBlanc said: "The

situation is similar in many ways to the extremely successful Bay of Fundy herring fishery which is primarily reserved for Nova Scotia and New Brunswick fishermen.

"The inshore fishery in Labrador has been virtually wiped out by foreign offshore fishing in the past, and these Labrador fishermen have had extremely limited opportunities to obtain a reasonable income from other resources.

"The new shrimp fishery at their doorstep will offer them

the possibility of developing an economically viable industry with good potential." In addition to the 7,100 tons in the new fishery, 1,000 metric tons of shrimp will be available to Canadian fishermen in Davis Strait this year.

Mr. LeBlanc said his department had been intentionally cautious in setting the initial number of licences.

"This is a new fishery," he pointed out, "and if we proceed to develop intensive harvesting capacity at this

time, without further stock assessment, we would find ourselves in the same position as we are in with other fisheries." But he anticipated that more licences would be issued, "as we complete further work in stock assessment."

Applicants for licences have to be already active in the Atlantic fisheries. They must demonstrate their capability to operate in the shrimp fishery by September 1. Because they may have initial difficulty in getting vessels ready, they will be allowed to

charter foreign vessels. But this will be for 1978 only and there has to be a substantial Canadian crew complement on board.

Fishermen harvesting the shrimp will be free to land it at the nearest processing plant, or they can process and freeze it at sea for landing in Canada.

"Given the price of shrimp in any of its product forms on the current world market," said Mr. LeBlanc, "substantial benefits for all those involved in this new fishery are almost a certainty."

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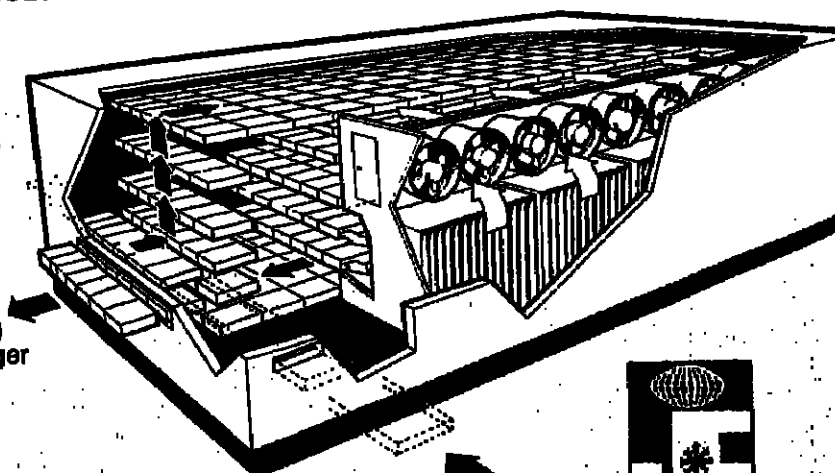
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Through training courses and demonstrations, ambitious fishermen in India are given the chance of graduating to methods such as trawling from harbour-based small coastal boats. Picture by FAO

Big firms or small fishermen?

INDIA MUST DECIDE

WHEN I was in India last year, I heard Mr. G. V. K. Rao, Secretary to the Ministry of Agriculture and Irrigations, announce that the country was poised for massive investment and development in fisheries.

In an address to the Indian Ocean Fishery Commission meeting in Cochin, Kerala, he said:

"In order to avoid a vacuum being created due to the withdrawal of distant water fishing fleets, India has launched a massive programme of introduction of deepsea fishing vessels, training of technical manpower and construction of several fishing harbours and establishment of adequate storage facilities ashore, tied with marketing arrangements.

"By a recent public notice we have invited applications from the industry for import of deepsea fishing vessels from various sources and I am very happy to mention that this has received very favourable response from the Indian fishing industry.

"Similarly companies from advanced fishing countries are now holding active negotiations for joint ventures with Indian industry in fishing and utilisation of marine products. We have to achieve the projected target of 200 deepsea fishing vessels in a couple of years."

While there is much enthusiasm and optimism by many people involved in this very large scheme for rapid development, others are more cautious in their approach. And some are very much opposed to it.

The latter include many fishermen with considerable experience in the areas of the Indian Ocean concerned.

Absorb

And, of course, many of the small-scale fishermen feel that the venture will absorb funds which could be more profitably invested in their sector.

I have talked to many people of varying views about the scheme. It seems that assumptions about the deepsea resources are based on a survey of the Indian Ocean in

LARGER boats, deepsea fishing and big companies or a better deal for small-scale fishermen. Which offers the best future for India, now moving towards a harvest of three million tons a year and a place among the top five fishing nations?

There has been a strong entry of major companies into the Indian fishing industry. The government has also been relaxing controls to allow in the modern vessels it sees as necessary to development. But there are still many people in India and outside who believe that it is the small-scale fisherman, suitably encouraged and supported, who will make the best use of the country's considerable marine resources.

CEDRIC DAY, who spent eight years in India with FAO and who has visited the country several times since, explains why he supports this view.

The area concerned that was carried out many years ago under a bilateral assistance scheme.

It indicated that there were, in total, very big resources for harvesting.

But this may not be practical because the concentrations of fish are scattered over a vast area and in clear water.

There are, of course, exploitable resources. These have been found in a number of places, such as an area where a reasonable catch of deepsea lobster may be made and where certain fish, such as ocean perch, may be caught.

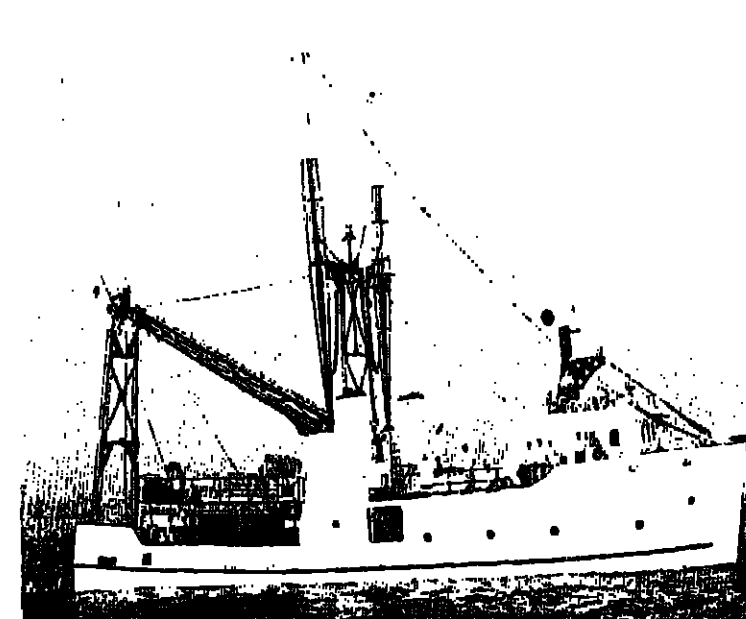
There are also deepsea prawns, but they arrive in distressed condition at the surface because of pressure changes. They have to be processed immediately if they

are to retain their quality. An indication of the practical fishing opportunities in this area of the Indian Ocean is the record of the trawlers and three purse seiners conducting exploratory fishing there. The most they have caught in a year is around 1,000 tons.

Proposal

The new proposal is that the deepsea vessels being acquired should operate beyond the 30 metre depth, leaving the shore waters to the artisanal fishermen.

Relative to the all-important shrimp fishery, empirical evidence suggests that most shrimp are to be found in the inshore waters down to 30 metres depth.



Despite the proposed fishing delimitations, artisanal fishermen are much against the introduction of the larger ships, suspecting that they will damage inshore catches.

Serious

The situation is already serious because catch rates have declined significantly in the west coast shrimp fishery based on Cochin and district.

This seems to be because of the vast number of boats that have fished the area in line abreast and line astern, one after the other.

Such overfishing, in the opinion of fishery experts, is likely to exhaust the resource. And because of declining catches on the west coast a large number of boats have moved to the east coast where extensive shrimp beds are to be found.

The onslaught of this armada has already led to a decline in catch rates there.

If such intensive fishing continues the impoverishment of the eastern shrimp beds seems inevitable.

At the same time there will be a loss of "trash" fish such as has taken place on the west coast.

On the larger issue of the government's deepsea fishing development plan, many experienced fishermen contend that there is little evidence to support the government's optimism. These fishermen say that the best con-

centrations of fish are in the inshore waters.

Fishermen I talked to suggested it would be far more beneficial for them and for increasing the country's fish supply if a substantial part of the hundreds of millions of dollars to be spent on deepsea vessels was diverted to small-scale fisheries.

Given proper technical assistance and incentive, the fishermen contend that the small-scale sector could boost India's catch by at least 50 per cent, through the use of mechanised craft and better gear and equipment.

Problem

Further, they say that the fishermen could land 50,000 tons or more of sardines in a year, so providing a supply for processing plants.

A major problem, of course, is how to extend practical help on the scale required by the hundreds of thousands of India's fishermen.

A first action to be taken, the fishermen told me, is to mechanise existing canoes with outboards housed in-board in a well.

It is also necessary to introduce a flat-bottomed beach boat — similarly powered with an outboard, to provide improved gear and equipment (including beach

continued on page 45

Who holds the key?

One Indian target is the increase — through local building and imports — modern trawlers and other vessels, such as this shrimp boat for Union Carbide India Ltd.

But, given the right opportunities and encouragement, the small-scale fishermen (right) with their improved boat, may hold the key to the future of India's fish supplies. Picture by FAO.



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Funds flow again

A DEADLOCK over paying out funds for the Indian government's ambitious scheme to import fishing vessels has been broken, reports *FN* correspondent Trevor Drieberg.

A committee of secretaries of central ministries has directed the Shipping Development Fund Committee (SDFC) to continue financing imports up to the end of 1978.

The Ministry of Agriculture has been asked to form an alternative agency to finance trawler imports from the beginning of 1979.

Since last January, the SDFC had stopped processing applications for trawler imports, apparently following Ministry of Shipping policy which was against disbursing loans for imports through the committee.

It wants the Ministry of Agriculture, which is responsible for fisheries, to handle the funds.

The SDFC has so far sanctioned loans for 80 vessels. Owners of small and medium sized craft are expected to benefit most if the special financing body moves to the Ministry of Agriculture.

Sale-at-sea plan

INDIA may allow direct export sales of fish and fish products to be made at sea.

The Ministry of Agriculture is reported to have cleared an application from Kalvinator of India Ltd., but the Reserve Bank of India is said to be insisting that the company provides a guarantee of sales turnover.

The minimum sales guarantee, according to the bank, should cover the chartering charges of a trawler plus a guarantee that only a specified quantity of the catch would be sold offshore.

Kalvinator has entered deepsea fishing jointly with a Polish company.

The *Economic Times* of New Delhi says Kalvinator has chartered a freezer factory trawler from Poland.

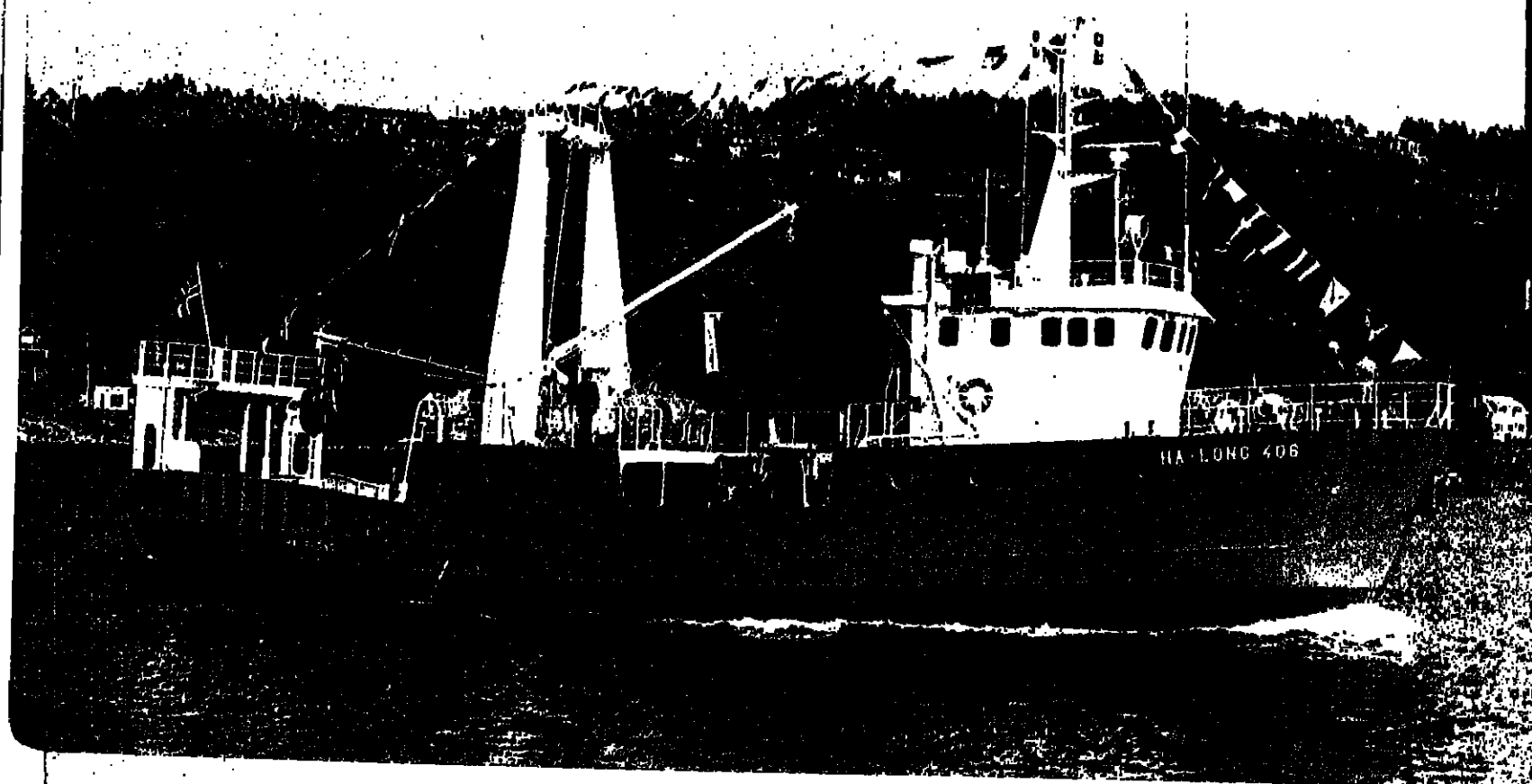
By selling direct at sea, operations will be speeded up and the company will avoid customs dues, which apply only to exports from the mainland.

The *Economic Times* says the guarantee may be waived if sales are made to countries with which India trades on the basis of rupee payment. Thus the firm may ultimately export its entire catch to Poland.

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Vietnam gets five ships through aid programme

NORWEGIAN completed two trawlers out of six, in Norway, as part of an aid programme. The ships are to be used for training and test fishing.

Named the Ha Long 407, it was designed by Ingvald Høegh and built by Høegh & Høegh.

Each vessel is 40m long, 10m beam, and 4m draft.

The main engine is an Alpha Diesel model 406-26V10 developing 600 hp, and there is a Volvo Penta MA 70 BK auxiliary driving a Stamford generator.

The ships are almost identical except that the 406 is rigged for purse seining in addition to trawling. She will be used for training as well as test fishing.

Each ship is reported to have cost about 7.5 million kroner (£1,425,000).

Accommodation is provided for a crew of 20. Catches will be carried

in boxes in an insulated hold.

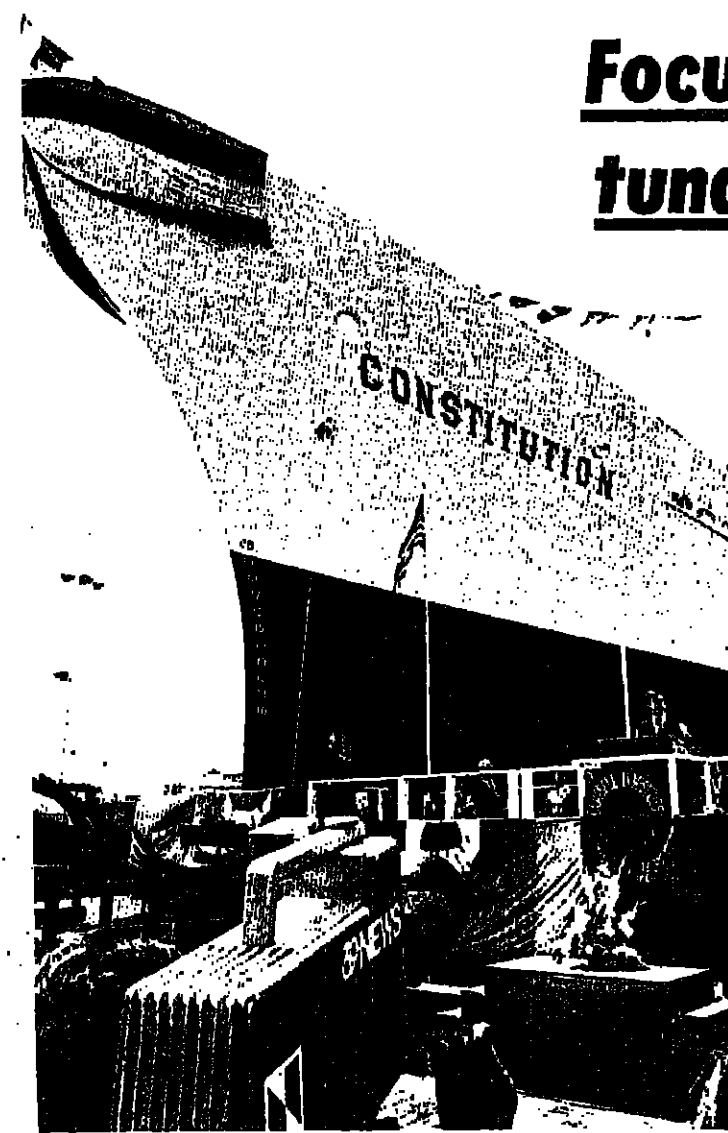
The main trawl winch and the purse seine winch were supplied by Hydralik, Brattvaag, and the power block in the 406 is a Rapp 3TR.

Fish finding instruments are by Simrad and include F.N.300 echo sounder, F.N.30 with Mül Frawley, and M.L. Sonar.

The two ships are part of some 38 million kroner of Norwegian development aid for the Ha Long centre being provided from 1977 through to 1978.

The centre includes harbour with service facilities, repair shop, drydock and several processing plants.

Focus on a tuna giant

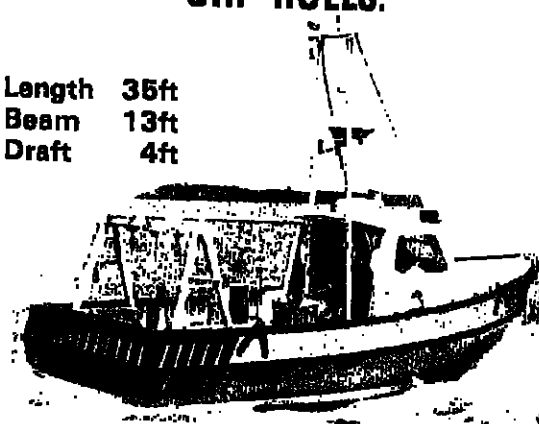


A BIG start for a super seiner. And the newsmen's camera pans in on Edmund G. (Jerry) Brown, governor of California, as he addresses a gathering of more than 1,000 at the launching of the Constitution in San Diego. This 1,200-ton capacity tuna purse seiner is the first of a batch of new ships building or on order at the San Diego yard of Campbell Industries.

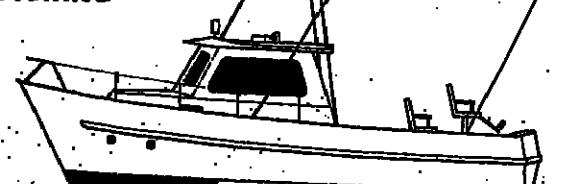
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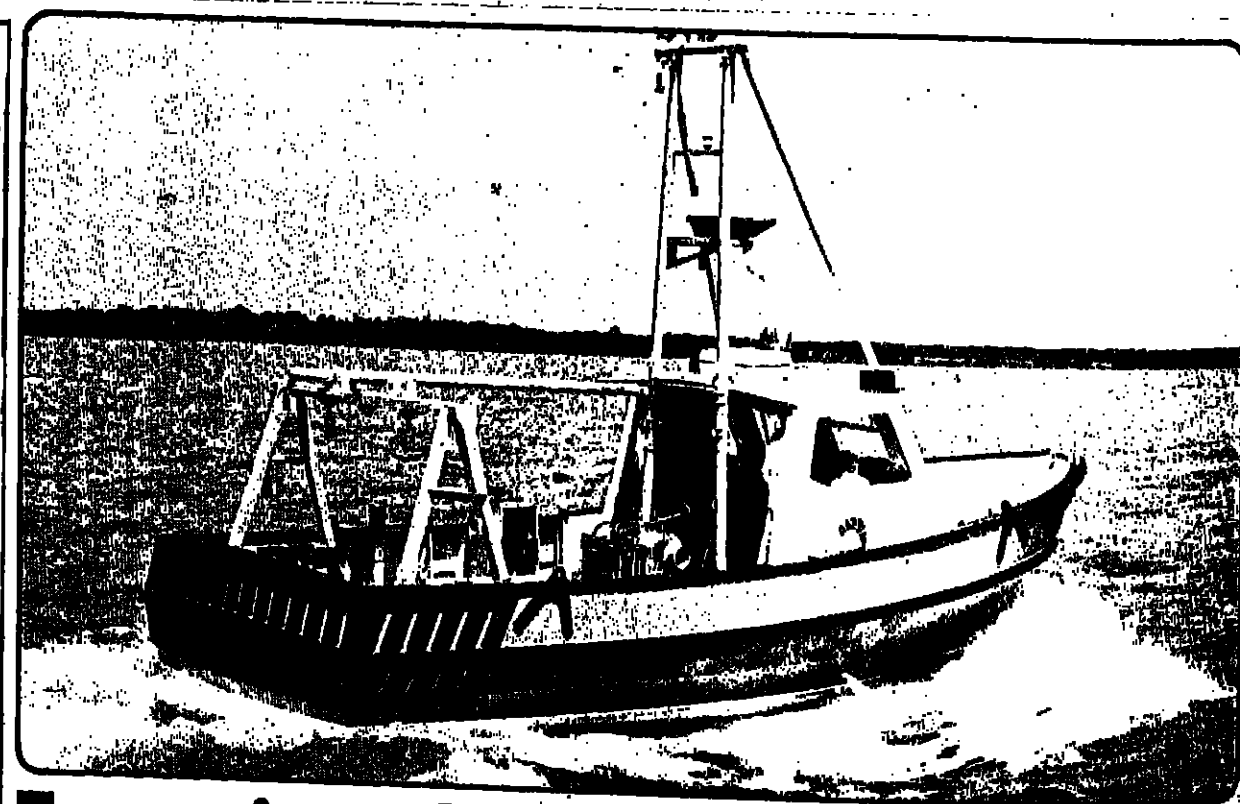
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Tanzania orders GRP craft for trawl trials

BRITISH GRP boatbuilder Freeward Marine has completed three small shrimp trawlers for test fishing in Tanzania.

Based on the company's 35 ft (10.67 metre) commercial mouldings, the first two boats were ready in July; the third is due this month.

Ordered for the government of Tanzania, these craft are part of a British Overseas Development project aimed at exploratory shrimp fishing in waters near Dar es Salaam.

The sound insulated engine room is beneath the wheelhouse with engineer's access hatch and ample space all

round the Lister HRW6 diesel for easy maintenance.

The 170 cu. ft. fish hold is located under the after deck. The aft compartment houses the fuel tanks and Whitlock steering gear.

Console

Wheelhouse arrangement incorporates a helmsman's console with engine instrumentation. Decca D60 radar, Seavoice vhf radio and Kelvin Hughes MS44 fish

An hydraulic North Sea 750 winch and auto line hauler are fitted on the aft deck. The drive is from a front-end power take off from the propulsion engine.

The Lister provides a speed of 8.5 knots, driving standard Lister sterngear through 3:1 reduction.

A bollard pull of 1.3 tons was recorded during trials.

The vessels are designed to work offshore for up to five days. Each has fuel capacity of 370 gallons and carries 200 gallons of freshwater.

Speed changeover in a 4-1 combination

ANOR new vessel stressing the emphasis on speed. She was designed by Einar S. Nilsen, builders of Harstad for

Ragnar and Svin Mathisen of Havoysund.

The vessel is a combined line and net boat, purse seiner and trawler. And she is so designed that she can switch from one method to another very quickly.

Her equipment is the most modern available. It includes combined trawl and purse seine winches from Rapp Hydema, a two-ton cargo derrick, and a Bjørshol Triplex net winch.

Similar

Development of the Stig Thorbjørn is reported to have cost half-a-million kroner (nearly £50,000). The builders have designed a similar but larger vessel 110 ft. (33.5 metres) long.

The Stig Thorbjørn is 23.1 m long b.p., with a breadth of 7.9 m and depth to slier deck of 6.35 m.

She is powered by a 900 hp Grenna diesel, has two Volvo Penta auxiliaries driving Stamford generators, and is equipped with a bow thruster.

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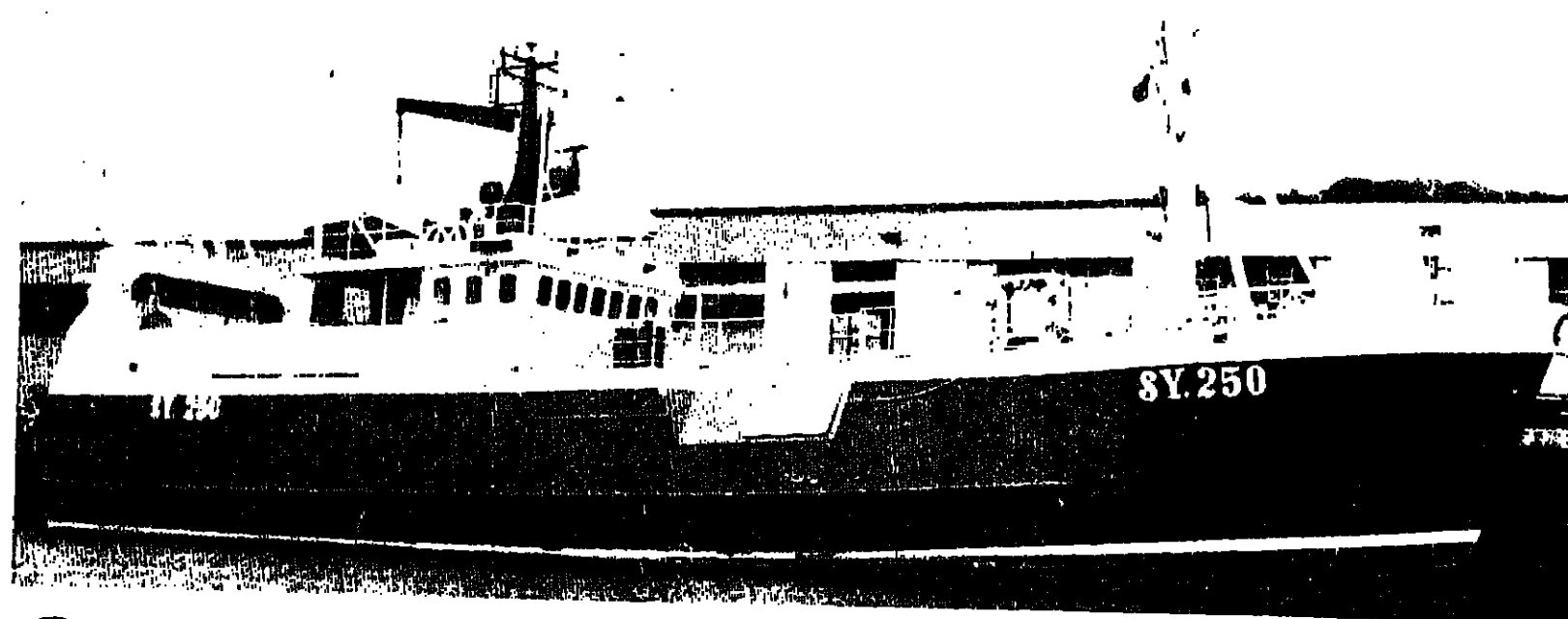
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SHE'S BRITAIN'S FIRST 'AUTOLINER'

THE arrival of a converted Danish vessel at Stornoway off north-west Scotland has created three new records: She is the largest boat in the local fleet, the first British fishing vessel equipped with the Norwegian Mustad Autoline system, and the first auto-line vessel capable of trawling.

The 114 ft (34.8 m) *Anni Elisabeth* heralds a return to a type of fishing in keeping with all the pleas for conservation.

Familiar

Her crew are now familiar with the Norwegian lining system after having attended a special training course in Denmark.

Partly financed by the Highlands and Islands Development Board, the *Anni Elisabeth* will play an important

part in the new £1.7 m fishery development at Breasclete on the west coast of the Isle of Lewis. She is owned by W. J. MacLeod (Fishing) Ltd. which has been formed with a capital of £135,000. The firm will also process and market fish.

The three-year-old Autoline vessel was converted for fishing in Esberg in just four weeks.

The crew spent six weeks training off the west coast of Ireland, Rockall, the Faroes and

the Shetland Islands.

She will normally have a regular crew of eight plus two trainees.

She began trials in the Minch last month when two Norwegian skippers joined her along with representatives of Mustad.

The Autoline system can shoot 240 hooks a minute.

Although built as a dual purpose vessel, it is understood that the *Anni Elisabeth* will be concentrating on line fishing.

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Indonesia winch orders

THE engineering firm Northern Tool and Gear, Arbroath, Scotland, recently constructed an hydraulic winch for Indonesia.

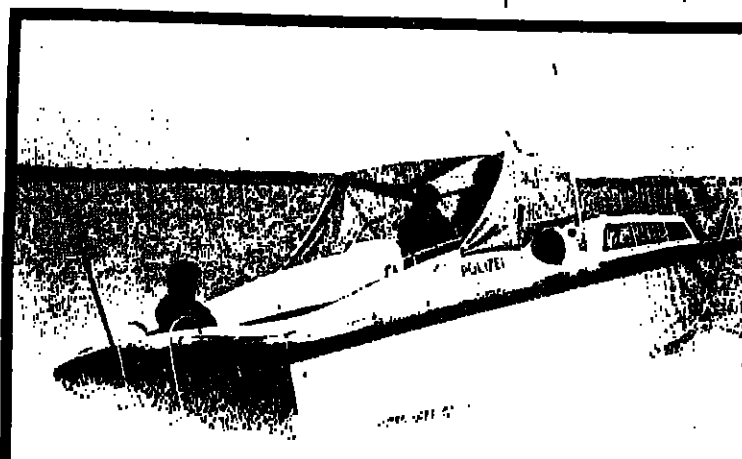
Complete with power pulley and spare parts, it will go into an 82ft boat. Senior engineer W. Birse is travelling out to Indonesia to supervise the installation there.

The Arbroath firm has been negotiating for a similar winch to go into a boat which has been converted for training Indonesian fishermen.

Yugoslavia boat plan

DURING the next five years Yugoslavia's Adriatic fishing fleet is planned to receive new boats. Eight of these will be built this year.

Yugoslavian enterprises working the Adriatic presently operate 170 boats which bring in about 200,000 tons a year. But this is insufficient to meet the needs of local processing plants; fish has to be imported.



Patrol boat that's fast and cheap

THE 32-knot *Trident 28* has been developed by the British firm Tallman Offshore as a low-cost patrol boat for rivers, estuaries and coastal waters.

Although primarily designed for police and customs work, the *Trident* could well have a fisheries protection role.

With a length overall of 27 ft 6 in (8.28 metres), she has a beam of 9 ft 8 in (2.9 m) and a draught of 2 ft 10 in (0.85 m).

Trident is based on Tallman Offshore's *Omega 828* deep vee hull moulded in GRP. She can be fitted with twin diesel engines up to 180 hp which will produce a speed of 32 knots.

Two versions are available, with enclosed wheelhouse or with open steering position. Tallman claims it is offering the *Trident 28* at a price considerably below that of its major competitors. Light armament can be incorporated to meet specific requirements.

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Poles launch African cutter series

THE WISLA shipyard at Gdansk in Poland has launched the prototype of a series of small refrigerated cutters specially designed for shrimp fishing in the Gulf of Guinea (see picture).

Although developed for the African market, the new cutters (designated series KR24) are expected to sell in other countries seeking to expand their fishing fleets as a result of 200-mile limits.

Designed in Poland and built to Polish Register of Shipping classification, the cutters are the first vessels built at the Wisla yard to be fitted with refrigeration plant and foam insulated hold. This will maintain a temperature of -25 deg. C.

Freezer

The catch is frozen in a plate freezer housed in a deckhouse compartment.

Steel-built throughout, the KR24 cutters have an overall length of 23.2 metres (76 ft), breadth of 7.4 m (24 ft), depth of 3.7 m (12 ft), draught of 2.9 m (9.5 ft), and hold capacity of 85 cu m.

The deckhouse, wheelhouse, accommodation and engine room are forward.

while the hold, bunkers and stores are amidships and aft.

Propulsion is by a 425 hp (1250 rpm) diesel engine giving a speed of nine knots.

Auxiliary plant includes an 80 hp diesel, 18 kW generator and a 29,000 kcal/hr cooling compressor.

The nets — supplied by Poland's Sea Fisheries Institute — are worked from twin 8.5 m outrigger booms, and the main winch is a three-drum machine pulling 4.5 tons at 40 m/min.

A chain drive from the main engine was chosen for the winch, so that it can be most easily worked by a relatively unskilled crew.

Ventilated accommodation is provided for a crew of ten.

Fishing and navigational aids include vertical echo sounder, radar and autopilot.

French fisherman designs GRP cat...

A SMALL cutamaran stern trawler named the *Revolution* has been designed by a fisherman from Etaples in Northern France.

The prototype of what is hoped will become a successful series is due to be built by the Blanengin yard in Boulogne.

The vessel is expected to have a number of advantages over conventional inshore trawlers, notably fuel economy and stability.

It is planned to mould the

Revolution's twin hulls in GRP. She will have an overall length of 13.2 m, breadth 7.5 m, draft of 1.6 m and working deck area of 88 sq. m.

The winch, immediately aft of the deckhouse, has four drums combined with three net reels. The aft end of the deck is spanned by a sturdy stern gantry.

Propulsion is to be by twin 180 hp diesel engines. Fuel oil and fresh water capacities are 10,000 and 600 litres respectively, and accommodation is to be provided for a crew of four.

...and in England

SOLARIS Marine of Southampton has produced plans for a 60 ft (18.3 metre) GRP catamaran for use in offshore fishing.

The deck space of the catamaran hull is intended to provide both adequate working area and a large wheelhouse. A raised forecastle gives good headroom in the accommodation below.

The side hulls are asymmetrical and the connecting section has been designed to gain lift from the waves passing between the hulls.

Plans are to build the hulls from C-Flex sheathed in GRP laminate. Deck and superstructure will be of GRP/balsa sandwich.

Planned power units for this fishing catamaran are twin GM diesels developing a total of 530 hp. These will turn propellers in Kort nozzles, while power take-offs from the front ends of the engines will drive hydraulic pumps for gear handling machinery.

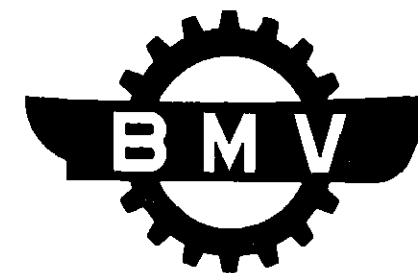
The fish hold will be foam insulated and GRP lined. Capacity will be between six and ten tons.

THREAT TO ENGINE FIRM

MANAGING director Jan A. Soyland, of Sabb Motor Company in Bergen, fears that if Volvo Penta is established in Norway with state assistance, this will threaten the future of his company.

Though a relatively small firm among engine makers, Sabb competes in a world-wide market, exporting 35 per cent in Norway last year, the company sold 1,742 engines, 900 of them for fishing boats.

According to Ernst G. Knappe, of Volvo Penta, his company is aiming at a larger home market by the proposed move of its marine engine section to Norway.



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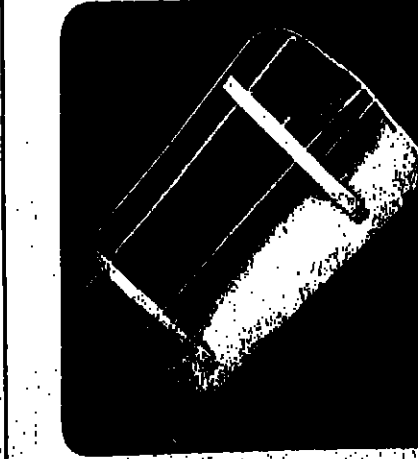
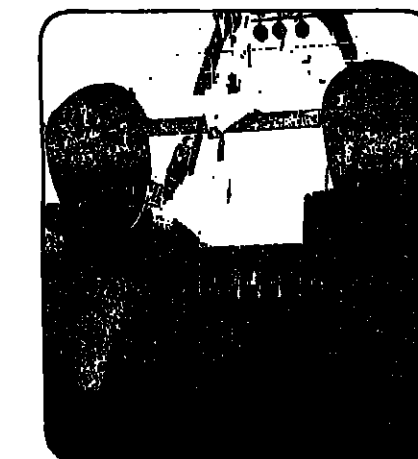
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The 'Carrigeen Bay' with pennants flying shortly after completion.

Ireland hails her latest 80-footer

BUILT in the BIM Boatyard in Baltimore, County Cork, the *Carrigeen Bay* was commissioned in June for Skipper Pierce O'Shea of Howth. She is a wooden trawler, 79 ft. 6 in. (24.2 metres) long with a beam of 21 ft. 8 in.

Of carvel construction in iroko and native oak, the boat has steel whaleback, masts and engine seating.

The main engine is a Caterpillar D379 developing 565 hp at 1225 rpm and turning the controllable pitch propeller through a Fernholt and Giertsen gearbox. The auxiliary engine is a Bukh 56 hp diesel. Accommodation is provided for a crew of eight.

The main trawl winch is a Hydraulik Brattvaag machine, type 'DIA8', having two main drums and a gilsen drum. The power block is a Lössic 28 in VP B-3 with two-ton pull.

In the wheelhouse, the *Carrigeen Bay* has an Atlas Fishfinder 720SP echo sounder with CRT scope, Atlas netzsonde 450KL with 450 recorder, Furuno FRS 48-mile radar, Wesmar SS240 scanning sonar system (made up of Wesmar SS210 low-frequency and SS220 high-frequency sonars), Decca Mk 21 Navigator receiver with track plotter, and Cetrek autopilot type 901.

Pierce O'Shea began his career as a fisherman in Ireland in 1964 when he joined the crew of his brother's 56 ft. boat.

He became skipper of the *Andromeda* in 1970 and in 1972 he bought a new 65-footer, the *Noel Alexis*.

Scots-built trawler for Faroes

SCOTLAND'S Campbelltown Shipyard has launched the second of four 87 ft (26.9 metre) steel stern trawlers ordered by Faroe fishermen.

Skipper of the new boat (named the *Fram*) is Henry Christopherson, who was at the yard for the launching.

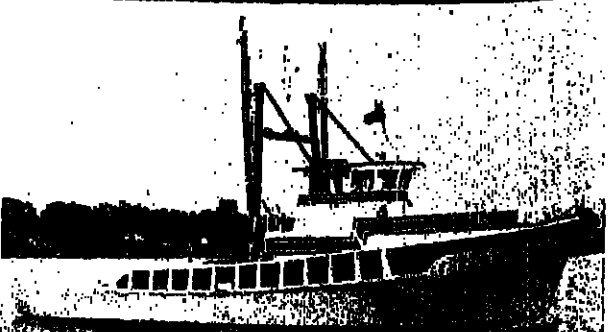
The *Fram* is similar to the *Von*, launched a year ago and now fishing successfully out of Torshavn.

She is powered by a Mirles Blackstone ESL6 main engine of 685 hp at 570 rpm and has two Lister HRW6 auxiliaries.

Deck equipment includes Rapp bridle winches, trawl winch, and anchor windlass, and the Autotrawl system is included.

Electronic equipment includes Simrad echo sounders, Furuno radar, and Sallor radio telephone.

VARIATION ON A STANDARD THEME



ANOTHER interesting variation on a standard Desco 75 ft GRP hull is the *Cirrus* for Robert T. Cooper of Greenport, New York state. She is designed for catching fin fish or scallops.

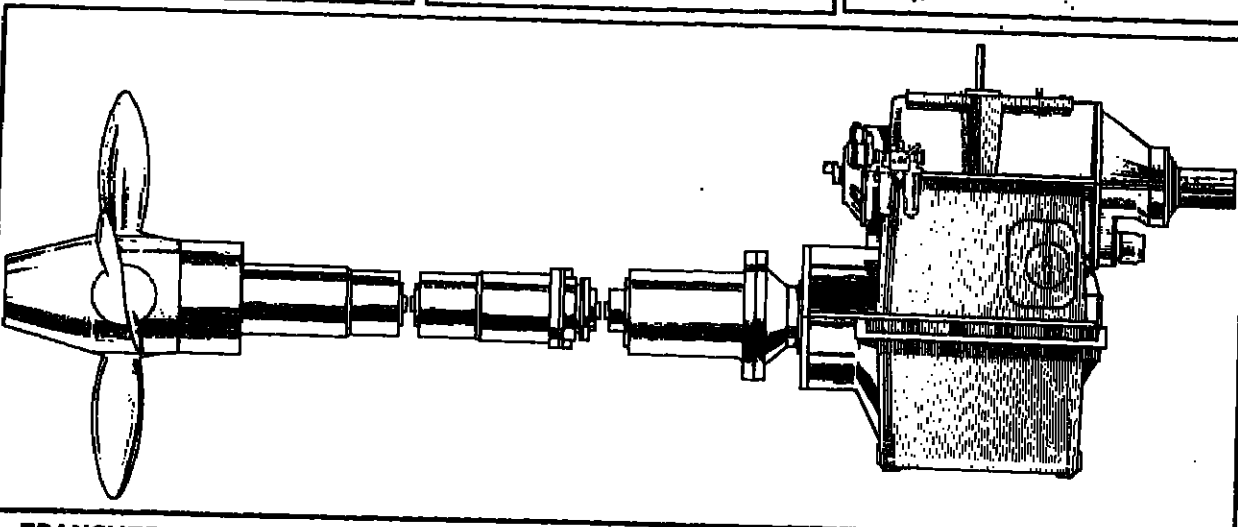
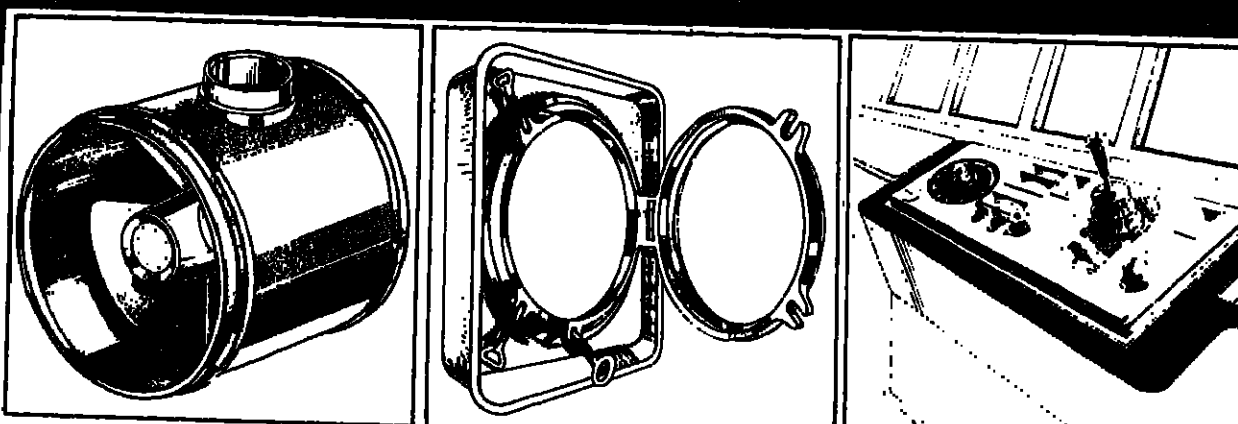
Cirrus is powered by a 365 hp Caterpillar engine. She has a GM 3-71 auxiliary and is equipped with a freezer system by Sears Refrigerator.

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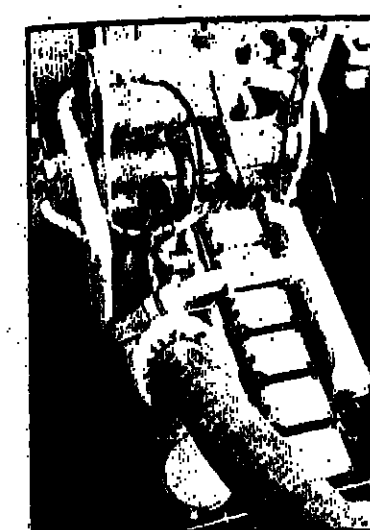
The FCM is an integrated manoeuvring control system, where all propeller units are connected. The course setting is made on a gyro repeater, and by using one universal lever (the «Joystick»), the vessel can be moved in all directions, remaining at the same course.

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More power from a lighter engine

THE FIRST fishing boat in the United Kingdom to be powered by a Cummins KTA-1150-M engine has returned to service. The 69 ft (20.9 metre) *Wilhelmina Maria* is a Brixham-based trawler which has just had a major refit. This included repowering with the 470 bhp Cummins engine (inset picture).

Owned by Mr. G. Hook of Brixham, the *Wilhelmina Maria* is a beam trawler used for bottom fishing outside 12 miles along the English south-west coast. After 15 years of service, Mr. Hook decided to have her refitted.

Replaced

Working with Dartmouth builders, Philip and Son Ltd., Cummins Diesel Sales and Service of Avonmouth replaced the boat's previous heavy low speed engine. The new Cummins is 50 per cent more powerful and around 3.5 tons lighter.

It is an in-line six-cylinder diesel which is turbocharged and aftercooled. One of a family of Cummins engines, it has a bore and stroke dimension of 6.25 in (159 mm).

Seychelles tuna ships

FRENCH yards are to build four 38-metre tuna ships for the Seychelles. Two will come from the Saint-Malo builder, Ateliers et Chantiers de la Manche, and two from Chantiers Normands Reunis at Courseulles-sur-Mer.

Completed in June at the ACM Saint-Malo yard was the 62.75 metre long tuna purse seiner *Antoine de Bougainville* for Soc Havraise de Poche.

Also under construction at the Saint-Malo yard is the first of four 34.9 m refrigerated stern trawlers ordered for SOMAMIR of Morocco.

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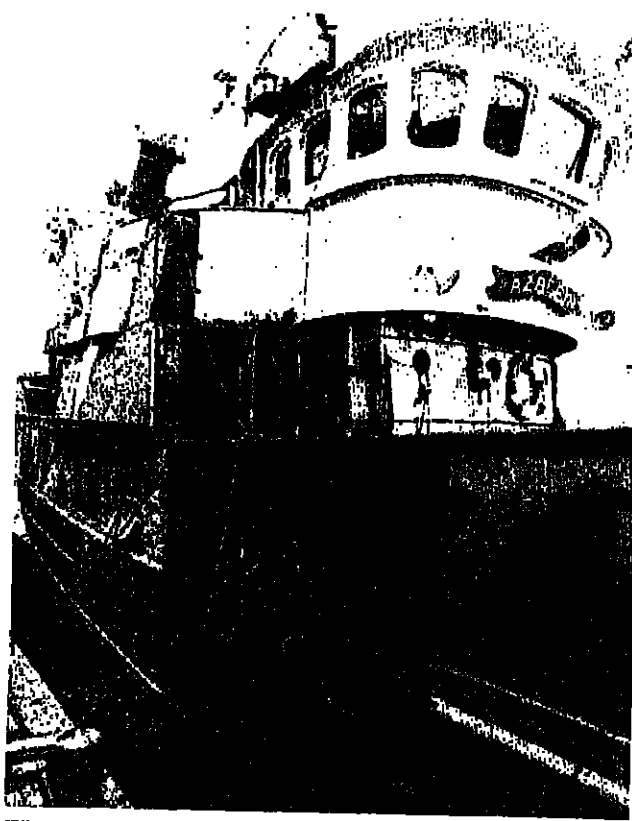
Treeve range of heavy-duty outfits, combined with modern fabrications: Treeve Cove Boat, Treeve DS 20, Treeve DS 25, Treeve DS 27, Treeve DS 34.

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BOATS & BUILDERS

DAG PIKE continues



Boats brought in for lengthening

MORE BRITISH fishing boat owners are taking their vessels to Holland to have them lengthened and modified.

The lengthening is partly to get the maximum benefit from subsidies and grants; but, without exception, the vessels are also having refrigerated brine tanks fitted or extended.

Two Dutch yards have combined to specialise in this work — Sheepwerf Voorit in Zandam and Maaskant in Stellendam.

The 'Azalea' at Hakvoort showing the new hull section which brings her length to 110 ft.

Voorit undertakes most of the steelwork; then the boats are towed to Stellendam for fitting out and completion.

Voorit has been involved in lengthening and converting more than 50 Dutch, Danish and British fishing boats.

The yard is currently working on three British vessels, and a fourth is being lengthened for the second time by Hakvoort at Monnikendam.

This last vessel, the 'Azalea', from the Shetland Islands, has been at the yard for seven months. In addition to lengthening, she has had a major refit and a new engine.

She is now powered by a 1000 hp Lister Blackstone diesel in place of her original 565 hp Caterpillar. The engine is coupled to a 11.5-ton gearbox and the propeller now has a nozzle.

A new 110 hp Lister diesel has been installed to supply electrical power for the brine tank refrigeration unit. All refrigeration equipment is by Promac.

The 'Azalea' was 87 ft (26.5 m) long when originally built at Hakvoort in 1971. She was lengthened to 100 ft (33.5 m).

She is now fitted with six brine tanks in place of three.

Converted

The 'Julianne', and the 'Convallaria', which are being converted at Voorit, were both built there. The 'Julianne' is being lengthened by 7.8 metres to 33.9 metres; and the 'Convallaria' by 5.9 metres to 33 metres.

Their tonnages are also being greatly increased by the addition of a shelter deck which, in effect, becomes the new main deck. It allows for deeper brine tanks to be installed.

The winch in both cases remains below the new deck. The hull space below the winch area is used as a dry fish hold.

A new Karmoy winch is being fitted in the 'Convallaria'. She will have six brine tanks when completed.

'Julianne' will have five brine tanks, a large centre one and four wing tanks.

Whaleback

Her whaleback forward has been extended outwards to the side and a low bulwark fitted around the bow.

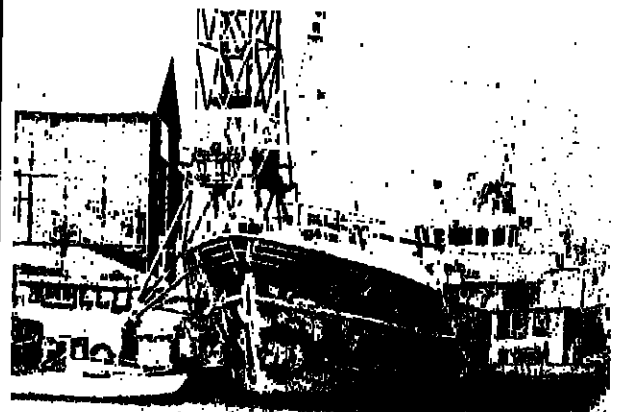
To give good visibility over the bow the wheelhouse has been raised by one metre. It has also been lengthened by one metre to increase space.

The British-built 'Flowing Tide' is the third vessel being converted at Voorit.

Additional buoyancy has been built into her to compensate for the weight of the brine tanks. This has been done by adding a wide steel plate below the bar keel and filling in the sides.

Six metres has been added to overall length and the vessel is being fitted with three brine tanks.

An additional machinery space has been incorporated into the hull to allow for refrigeration plant to be fitted later.

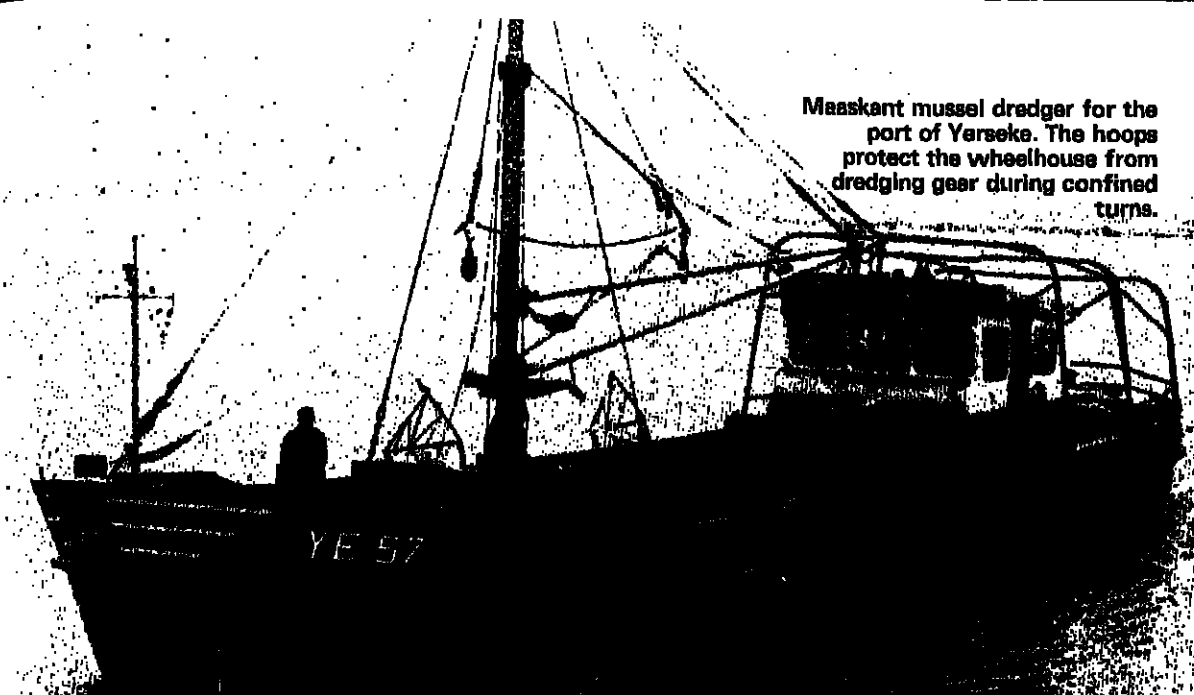


'Azalea' spent seven months at Hakvoort — the yard that built her — for her latest modifications.



The 'Julianne' being 'stretched' at Voorit. The extra length has almost doubled her tonnage.

his look around Dutch yards



Maaskant mussel dredger for the port of Yerseke. The hoops protect the wheelhouse from dredging gear during confined turns.

THREE MUSSEL DREDGERS...

THE Maaskant shipyard at Stellendam in Holland has completed two mussel dredgers for the port of Yerseke.

Designed for shallow water, they both have a length of 30 metres, beam of 6.50 metres, depth of 2.60 metres, and capacity for 10,000 kgs of mussels.

Propulsion in each case is by a Cummins type TT 1150 H diesel of 320 hp at 1800 rpm coupled to a Masson 3.4:1 gearbox.

A second Cummins diesel — type M743G 220 of 160 hp — drives a KSB seawater pump (800 cu metres an hour), which is used for discharging the catch.

A Maaskant hydraulic winch is fitted on the foredeck and the hydraulic steering is also by Maaskant.

Another mussel dredger under construction at Stellendam could well start a new design trend: The 30-metre long craft has a stern trawler configuration.



The 30-metre dredger building at Stellendam showing the stern gantry arrangement.

...and a floating cockle factory

COCKLE gathering, which is becoming a major industry in Holland, is to be speeded up by a new dredging and processing vessel under construction at Den Helder.

Visser & Zonen are building the craft which will have a length of 36.05 metres, beam of 8.0 metres and draught of just 60 cm.

The dredge is to be mounted on a trailing arm on the port side. It is used in conjunction with a high-pressure water pump which loosens up the seabed forward of the dredge and blows sand and cockles into it.

The sand passes straight through and the cockles are brought on deck by suction pumps.

The catch then passes through a series of cleaners and graders, all connected by conveyor. The cockles are boiled and the shells separated from the meats which are packed in sacks.

Propulsion of the dredger is by twin 180 hp Scania engines mounted aft. A third diesel of



The Visser dredger — she will speed up cockle harvesting.

the same type, mounted centrally, powers a 70 kW generator.

The aft superstructure is aluminium which contributes towards the vessel's very shallow draught, and the twin propellers are housed in protective tunnels.

The wheelhouse will be equipped with radar, echo sounder and auto pilot. Steering is hydraulic by Sefite.

All handling machinery has been developed and built by OMF of Den Oever.

Out to win a stake in fishing

THE Damen shipyard has got off to a good start with a new 26-metre (85 ft) fishing vessel design. The yard, at Gorinchem in the south-west of Holland, has received orders for three vessels from New Zealand.

The names of the buyers are not yet divulged, but Damen is confident that these orders will be the first of several from a part of the world where fishing is expanding fast as a result of new 200-mile limits.

World study

The 26-metre design has been developed as the result of a world-wide study of the requirements and potential of the fishing boat market.

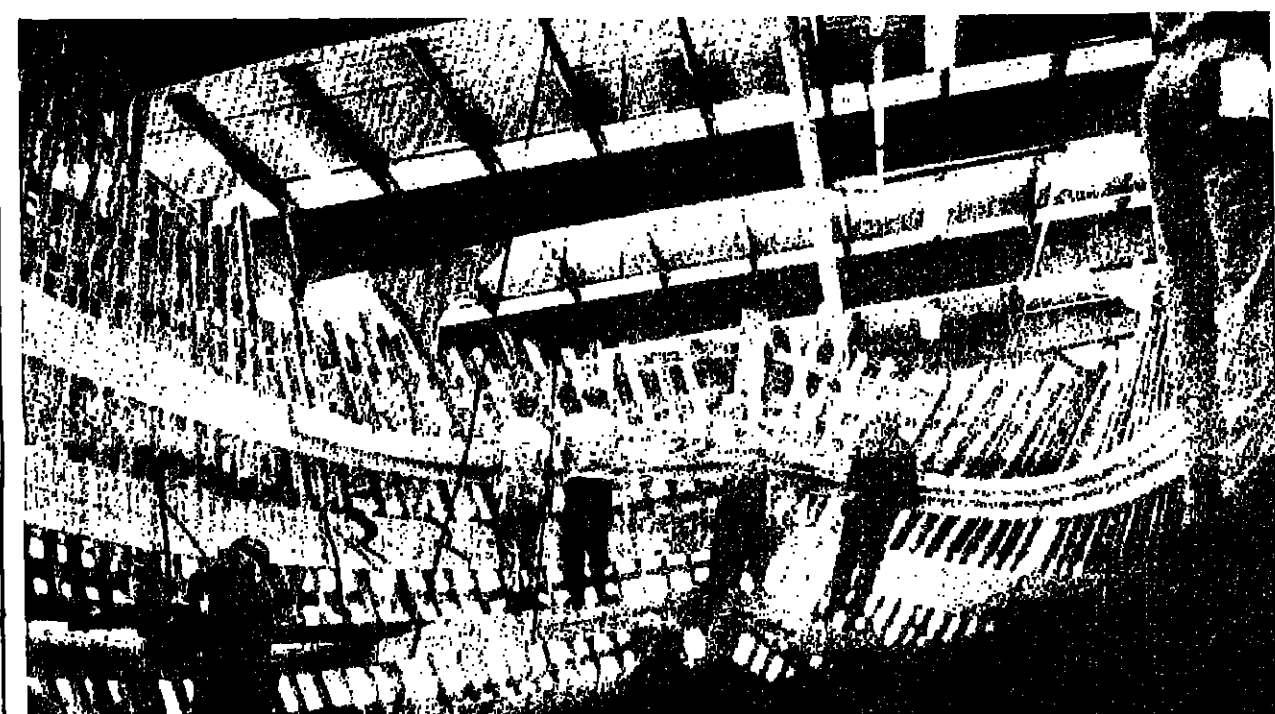
Damen has been looking at this market for many years as a logical extension of its steel workboat construction. It now plans to develop a range of fishing boats.

Short delivery

The yard says it will offer the same short delivery times and back-up service to fishermen that it already provides for workboat owners.

Fast delivery is achieved by keeping hulls in stock ready for fitting out to an owner's requirements.

The back-up service is based on a complete stock of spares, including engines and hull sections, which can be sent to any part of the world at short notice.



A hull taking shape on Desco's wood production line.

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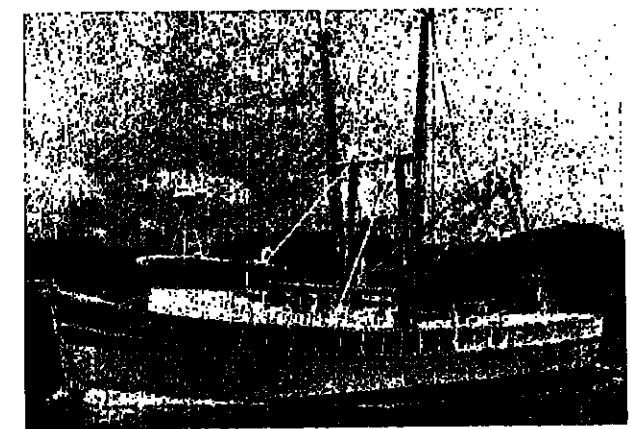
Desco Marine has been building wood shrimp boats for 35 years, and its craftsmanship and performance are backed by The Whitaker Corporation, with assets of \$481 million and a tradition for excellence in boat building that also includes Bertram and other outstanding pleasure craft.

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This 73-footer was the 74th Desco built for Harnden Marine of Aransas Pass, Texas.

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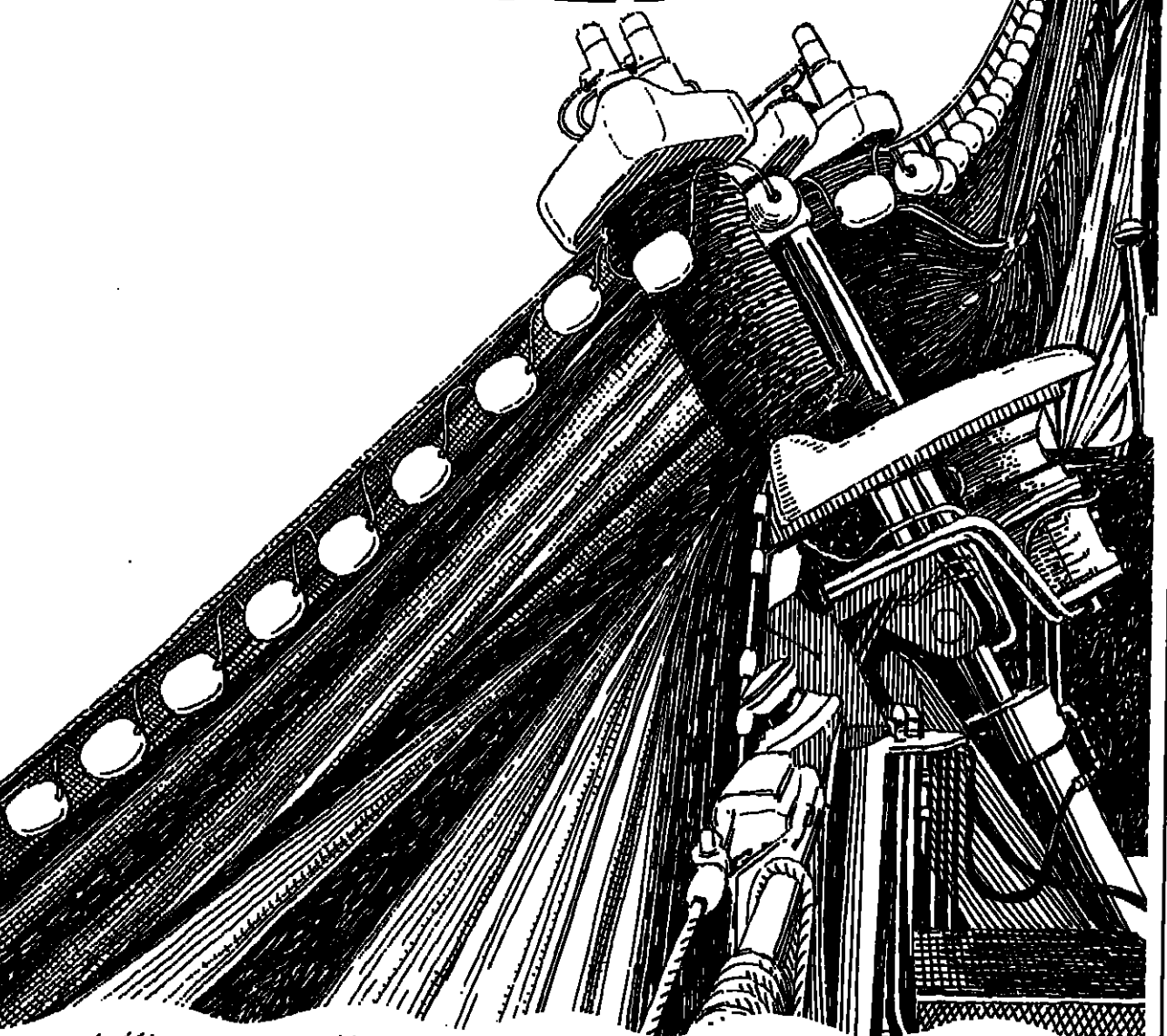
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PORTS & MARKETS

IT'S NOT GOOD ENOUGH!



India's fishermen need modern landing places

THE INCREASED mechanisation of fishing boats in India is intensifying the need for improved landing facilities, reports our FAO correspondent Cedric Day.

Although most of the country's thousands of small-scale fishing boats have landed on beaches ever since fishing began there, fishermen no longer regard this as unchangeable. Even the more remote villagers have heard about, or seen, the advantages of harbours or properly equipped landing places.

At present there are estimated to be 1,300 landing places along India's 6,000 km coastline.

Of these, 20 have jetties or berthing basins, slipways, entrance channels and breakwaters.

Under present development schemes, a further 76 landing places are being or are to be built.

In addition, major harbours are being established at Bombay, Cochin, Madras, Vizhakupattam and Kochi (for Calcutta).

But even with the completion of all projected construction, the vast majority of India's fishermen will have to continue their traditional beach-landing operations.

This will add enormously to the problem of improving distribution and marketing of fish as the widely scattered beach landing sites are mostly without road access.

Understandably, the government's concentration on harbour development is directed to areas of heavy population.

New harbour

The harbours are being built on a commendably spacious scale, as I was able to see when I visited two or three of them recently.

A typical example is at Madras. The new harbour will be located at Cussimode Bay, north of Bharathi Dock in the present harbour, and it is planned to bring it into operation by the end of the year.

When completed, it will accommodate 150 trawlers and 500 local fishing boats of 30 to 32 ft.

The harbour will take vessels up to 5.8 m draft.

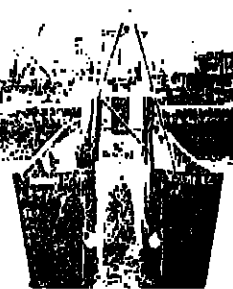
Shore facilities will include auction and packing halls, administrative offices, canteen, fresh water supplies, slipway and repair workshop, net-drying and mending areas, ice plants and a fish processing area.

One of the advantages of building the first new harbours at big centres such as Bombay and Madras is that there is an extensive road system to speed the distribution of fish, fresh or processed.

Many places where harbours or landing facilities need to be established have no connecting roads and those must be built.

Under the traditional sys-

Top spill skimmer



Working off Vancouver, British Columbia, this 50 ft. Class VII harbour oil spill recovery boat is claimed to be the most advanced skimmer yet. It can clear up to 250 gallons of heavy oil a minute.

Marco of Seattle, USA, designed the craft and supplied machinery and technical assistance. She was built at the John Manley yard in Vancouver.

tem, the catches from village boats are distributed fresh locally. The surplus is sun-dried.

If exceptionally big hauls are made, much of it goes to waste. Thus, to concentrate landings from many villages at a harbour where they can be readily handled and distributed to many and distant markets makes sense.

Costly

But it should be pointed out that development along these lines is not only costly but long-term.

More than ten years ago I was involved in setting up a large-scale FAO/UNDP project for surveying and assessing a number of fishing harbour sites in India.

Work had already started then on the new Madras harbour which should come into operation at the end of this year.

Similarly, other harbours have taken years to build. Work is often delayed because of lack of money or other

TWO NEW PACKAGING IDEAS TO HELP THE EXPORTER...



It's just the case for frozen fish

STARWOOD Fisheries (Scotland) Ltd. exports a wide range of IQF fish in corrugated fibreboard transit cases.

Supplied by Ashton Containers Ltd., of Livingston, West Lothian, Scotland, these single-wall B-flute containers carry fish to Europe, Canada and the United States.

Starwood Fisheries, a leading independent fish processor in Scotland, only recently moved into the production of IQF fish. It is one of two processors in the United Kingdom using an Atlas Rota rotary drum freezer (see picture).

Hand filleted fish, conveyed to

the unit, adhere to the surface of the drum, which is cooled to —45 deg. to —50 deg. C.

After one revolution of the drum, which takes from four to 16 minutes depending on fillet size, the fish falls on to a conveyor. Then it is graded before being packed in the transit cases, which are lined with gusseted polyethylene bags.

"With IQF fish," explained Starwood's coastal buyer and packing manager Robbie Bain, "it is essential to have packs of just the right size. But this is not as simple as it sounds."

"When IQF fish is packed into

transit cases, there is some settlement.

"This means that, if the case is not exactly the right size, there is space left at the top which affects the container's compression strength. As we don't want the fish itself to take the stacking load, this is very important."

Starwood Fisheries purchase transit cases from Ashton Containers in sizes ranging from 10 to 40 lb.

"With some 60 per cent of our products being exported, high-quality packaging materials are a vital factor in our operations," said Mr. Bain.

Cutting shrimp losses

NEW CONSUMER packs for shrimp exports have been developed in India. These are intended to cut

losses from contamination experienced with present cartons, and to give a stronger pack.

The new packs, complete with graphics, have been performance tested and are ready for use.

Export of shrimp in these packs assume greater importance in view of the Indian government's decision to invest Rs 10,000 million (about £650 million) over the next seven years in further development of marine products.

Rent-a-pump sprat mover



A £2,000 saving was made at Grimsby recently when a six-inch Godwin pump was hired to move sprats.

Only part of a big catch by a local trawler could be used for reduction to meal. The rest had to be transferred to a cargo vessel for shipment to Denmark.

Looking for a handling method more convenient than the normal conveyor belts and shovelling, Melvin McLellan, managing director of Industrial Fish Landing Company, telephoned SLD pumps.

Within 1½ hours, a Godwin DPC6 pump was ready and loading of the cargo ship was completed in a record three hours "with no noticeable damage to the fish."

The pump was fitted with a single blade impeller having a capacity of 1,500 gallons a minute.

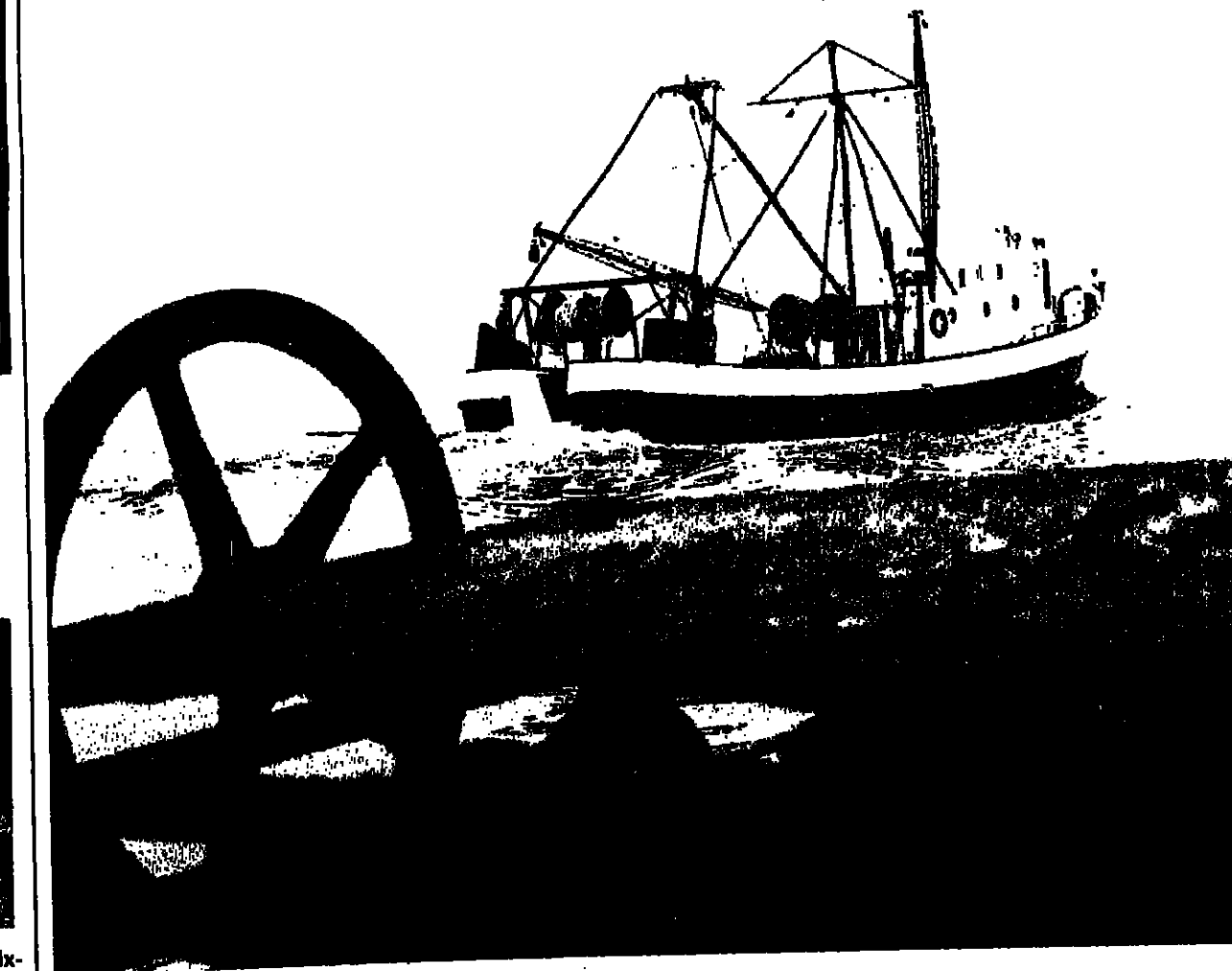
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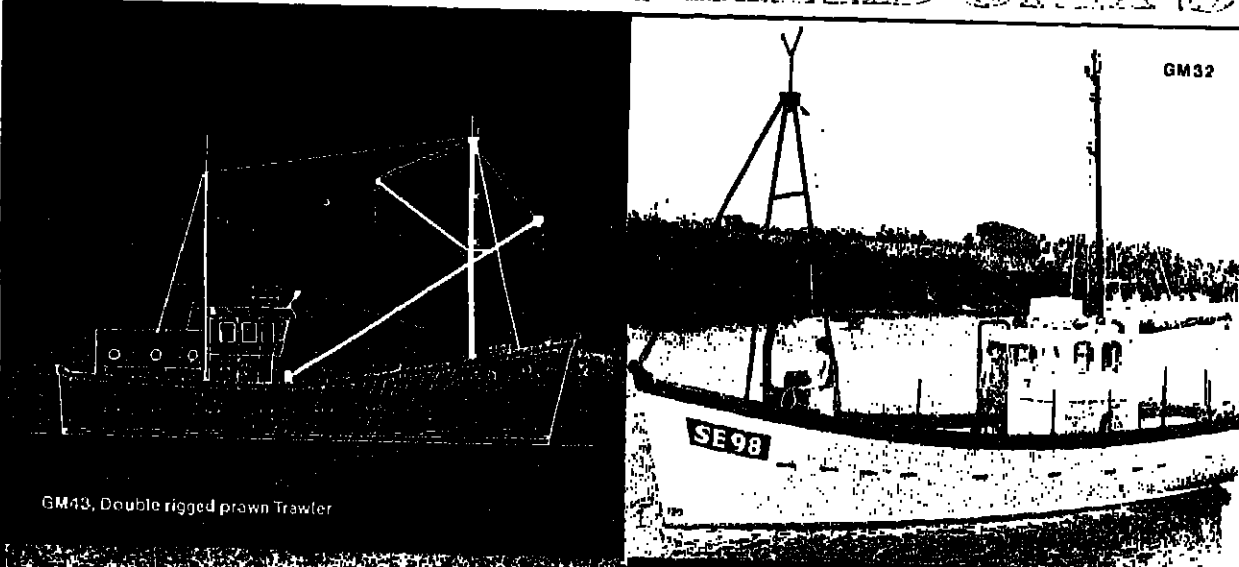
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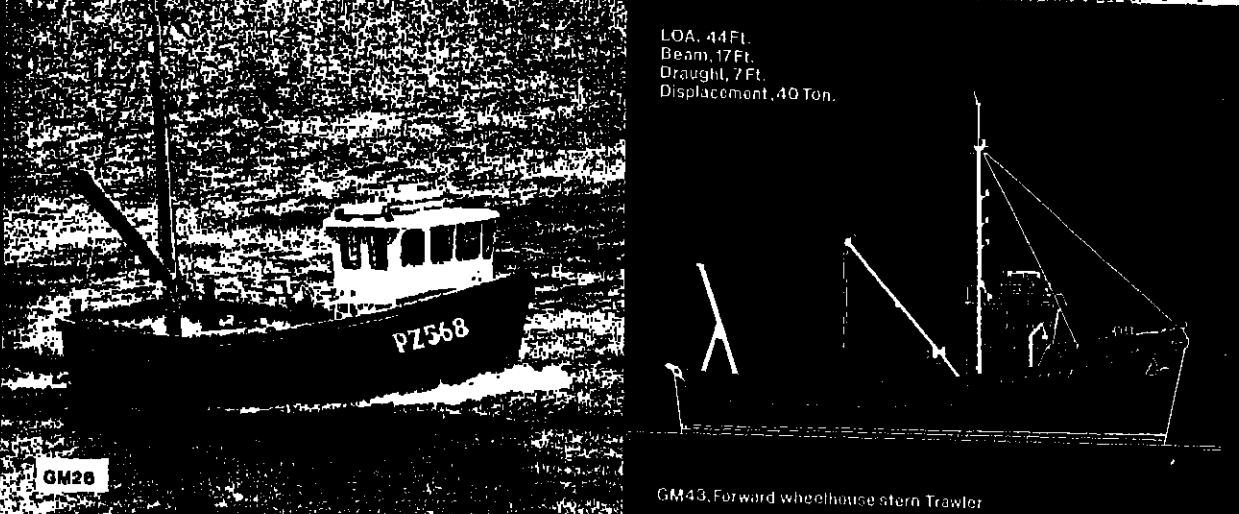
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Availability of exhibit space is extremely limited. Contact Fish Expo headquarters immediately for details.

CYGNUS WORKBOATS



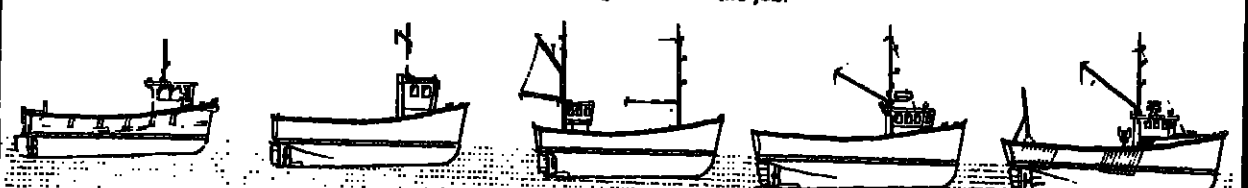
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Beam, 17ft.
Draft, 7ft.
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GM43, Forward wheelhouse stern Trawler

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PORTS & MARKETS

Mexicans pour cash in squid

SEVEN Spanish-Mexican joint venture companies are to invest some US\$80 million and 11 ships to fish for squid off the coast of North America.

Mexico's catch is expected to increase by about 30 per cent this year to a total of 9676 million.

One of the companies is Industrial Maritima SA, formed by the Spanish group Barreiras Hnos and the Mexican group Visa de Monterrey. Catches will be marketed in Spain through a Barreiras company.

In another international arrangement, the Marine Industry Development Corporation of South Korea is to take part in two Mexican joint ventures.

One of these will be with Propesca Corporation of Mexico to fish off Alaska.

In another venture, the same two partners will set up a Mexican company with the Koreans holding 49 per cent and Propesca 51 per cent to develop resources inside Mexico's 200-mile zone.

Solomons model for Pacific joint ventures

SOUTH PACIFIC countries tend not to look kindly on foreign fishing — particularly if it originates from Japan.

It is estimated, for example, that some US\$400 million of tuna is taken from the region yearly.

The newly-independent Solomon Islands, however, is a country which does

not share this antipathy, although there are said to be some 400 Japanese vessels working in its waters.

With islands scattered over more than 1,000 miles, the new nation has a very large fishing zone in relation to its land area. Also, its tuna season extends over eight months instead of four for countries such as Fiji.

It might be thought that these tuna would be particularly vulnerable. But the Solomon Islands has a valuable stake in the fishing secured through a joint venture with Japan's giant Taiyo company in skipjack catching and processing.

So far, this is one of the few successful ventures of its kind in the South Pacific. It has become a model for other countries and companies seeking similar deals.

State share

In return for an investment equal to about US\$6.3 million in vessels, canning and freezing plant, Solomon Taiyo gained fishing rights within the 12-mile limit. The Solomon Island government has a 25 per cent share in the company.

Solomon Taiyo owns four vessels in a fleet of 20. The rest are chartered and manned by mixed crews of Okinawans and Solomon Islanders.

The company's main operation is at Tulagi where a cannery equipped with second-hand plant from Japan worked at two-thirds of capacity to handle 2,000 tons of fish. Nearly 75 per cent of the product from this supply was exported to Britain with Germany emerging as an important second market.

However, three tons in four of all skipjack landed at Tulagi (as well as catches delivered to the second base at Noro in the western

Iraq buys Polish vessels

THIS year's catch by the Iraq State Fisheries Company (SFC) is expected to rise to between 30,000 and 35,000 tons.

Fish caught by the SFC fell from 51,930 tons in 1974 to only about 4,500 tons a year in 1976 and 1977, said director-general Taha Mahmoud al-Douri. This caused serious shortages in Baghdad market.

But the SFC has now invested the equivalent of US\$18.5 million in three Polish fishing vessels. It plans to expand its fleet to 27 from eight large and six small vessels.

It also plans to increase fish farming.

Solomons) were exported frozen. Most of the fish went to United States canneries in American Samoa, Puerto Rico and the US mainland. A small amount also went to Japan.

The company is now planning an increased canning capacity with a second plant to be erected at Noro. This will be three times the size of the Tulagi plant.

Although catches have fluctuated, the overall direction has been upward. Catches and exports have trebled between 1973 and 1976. This year Solomon Taiyo hopes to beat its 1976 record.

SMOKING OVEN PUT ON TEST

ON SHOW at the Catch 78 exhibition in Aberdeen was the Fishmaster single-trolley fully automatic oven made by the German firm Maurer, a leading manufacturer of fish smoking equipment.

It aroused considerable interest and was later installed in an Aberdeen factory for trials.

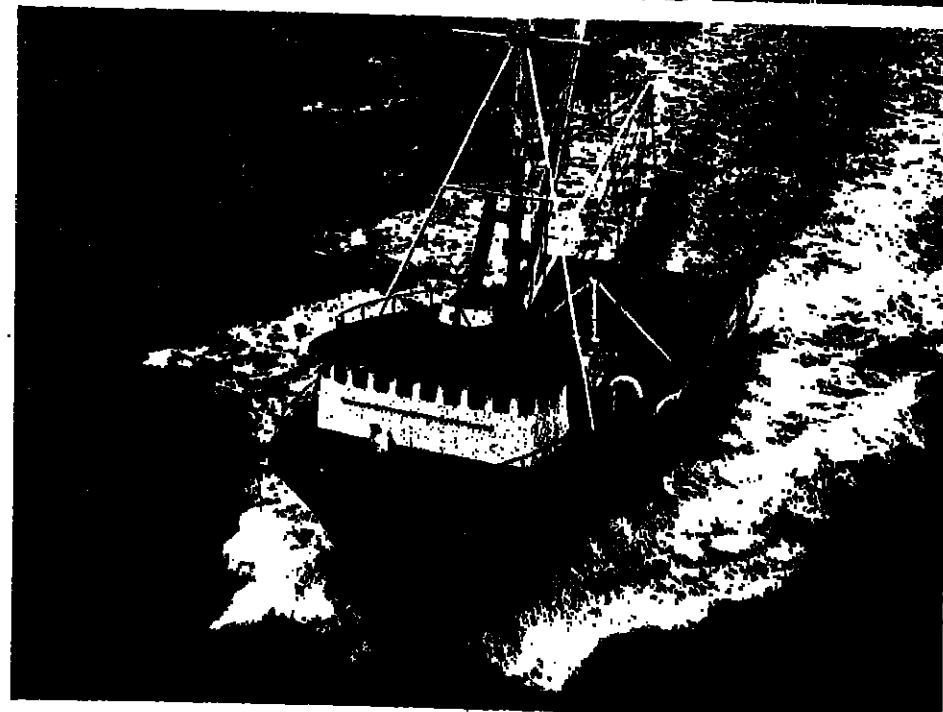
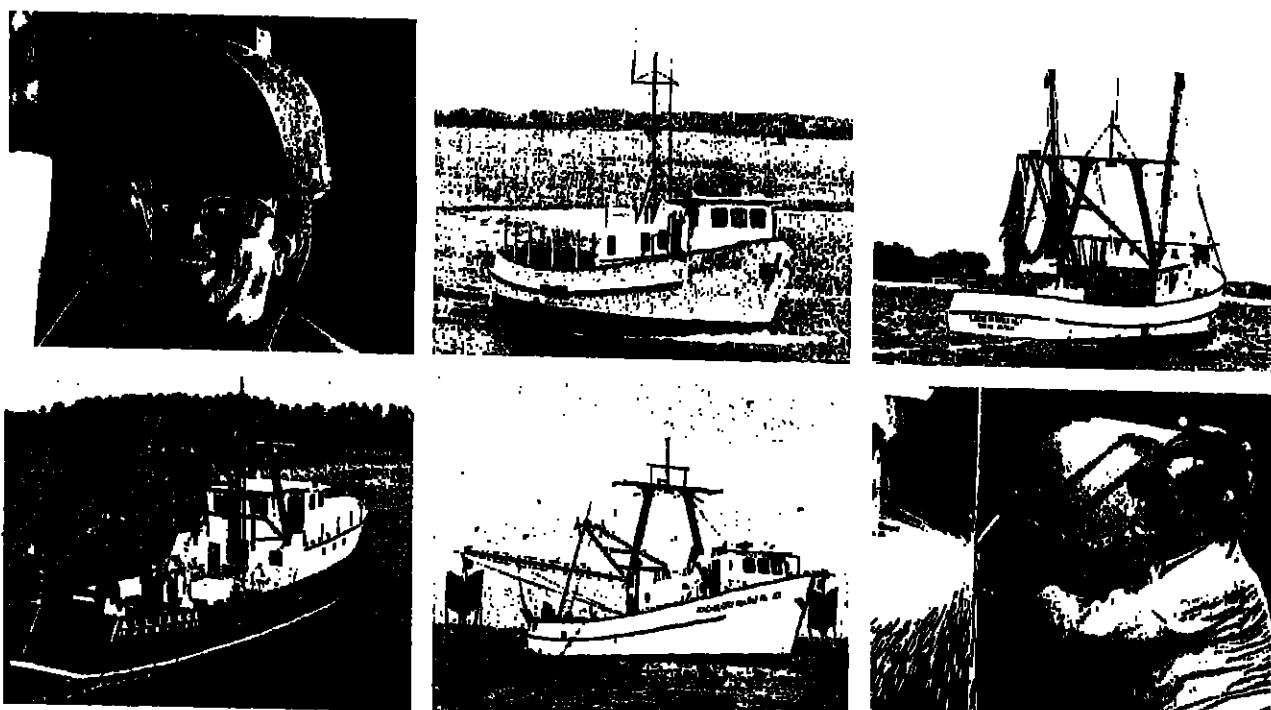
The Maurer range of smoking ovens goes from one up to 12 trolleys on standard designs. They are suited to hot or cold smoking, and also defrosting before smoking.

Compact in design, the equipment has a built-in cleaning system.

Smoke is provided by an automatic smoke generator, and the whole system is automatically controlled.

Further information from H. Maurer & Sothmann, Frankfurt and Wismar, D7752 Insel Reichenhagen, West Germany.

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BOATS ON THE BEACH

CONTRASTING styles in boats at the small fishing port of Whitstable in the south-east of England.

Three local boats are seen on the beach for hull cleaning. In

the foreground is the 11.58 metre marine catamaran *Majaro* which trawls and gill nets in the difficult waters of the River Thames Estuary. The *Majaro* has a beam of 5.2 metres and is powered by an 80 hp BMC diesel engine. In the background are two local trawlers. The boats are 13 metres long. They bottom trawl and pair trawl for herring.

Philippines catch record

FISHING in the Philippines had its best-ever year in 1977 with a record catch of 1,467,380 tons, 6.2 per cent up.

Projections for this year indicate a further increase through continuing improvements in catching technology plus the acquisition of more modern boats and gear.

The Philippines catch has been rising at a rate of 5.6 per cent in the 1970s.

Last year 98 per cent of the

catch went into domestic consumption and the country is moving steadily towards its target of self-sufficiency in seafoods.

Imports totalled 62,202

tons in 1972, rising to a peak of 86,910 tons in 1975. Since then they have been falling rapidly to 64,000 tons in 1976 and just under 25,000 tons last year.

British freezer phase out

THE number of British distant water fishing vessels has again declined, reports the White Fish Authority.

Freezer trawlers have fallen by another five since the end of 1977, from 38 to 33. Of the five ships out, two transferred to oil rig work, two went to a British United Trawlers joint venture in Western Australia, and one went aground.

JAPAN'S BUYERS VISIT MEAL PLANTS

JAPAN was the main buyer of US\$100 million worth of fish meal and oil shipped from the Chilean ports of Arica, Iquique and Antofagasta last year.

To see for themselves where and how these imports are produced, a delegation from the Association of Japanese Fish Meal Importers visited the region recently.

The delegation toured six plants in the Iquique area and also saw plants in the other two ports.

Members of the delegation reported that in 1977 Japan imported 175,000 tons of fish meal and that 60,000 tons of this came from Chile.

Eel hopes

BRITISH fish importer Tom Grahame says that Canadian distaste for the common eel is helping him fill a good market in England.

Visiting Nova Scotia and New Brunswick, he said that he wanted to bring in 1.7 million lb of Canadian eels by the end of 1979.

Until recently he was unable to fly export eels from Canada because the airlines would not accept them. But new handling methods have removed this obstacle.

We'll quit!

MULTINATIONAL corporations operating deep-sea trawlers in India are reported to have threatened to quit the industry if the government supports moves to keep them out of shrimp exports.

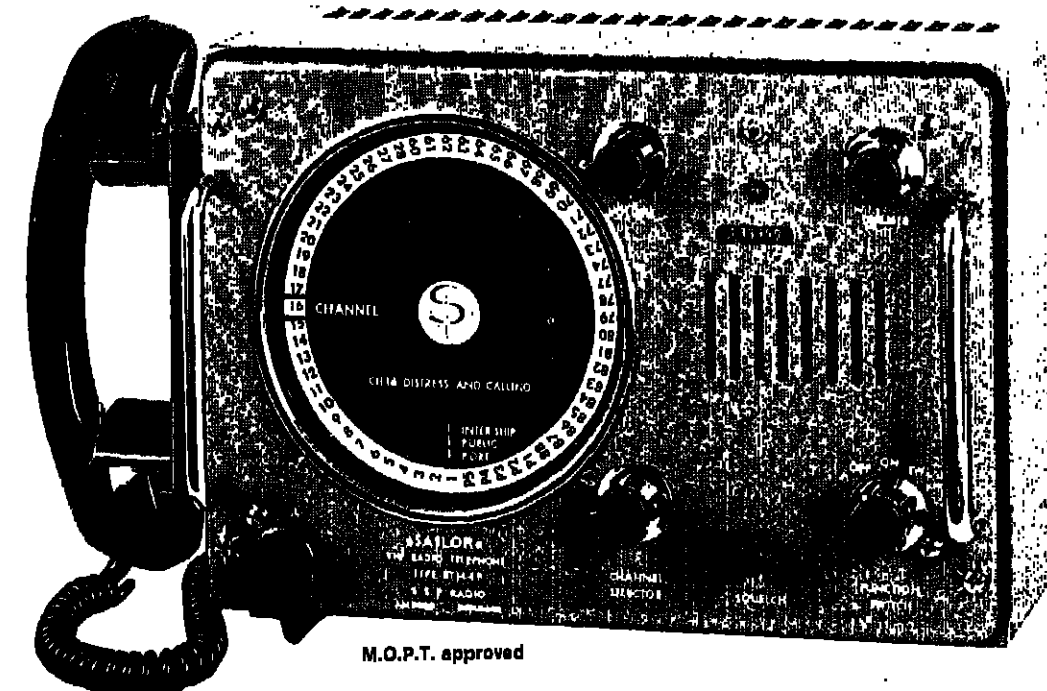
This was demanded by local companies trading in shrimp who proposed that fishing inside 20 km should be confined to small craft.

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You can call-up your home via the coast stations and the telephone network.

You will have ship-ship communication.

SAILOR RT 144 B is all transistor design, i.e. the power consumption is low.

SAILOR RT 144 B is contained in a nylon-coated steel cabinet.

SAILOR RT 144 B is within the reach of everybody. The price being very competitive owing

to the fact, that S.P. RADIO has developed a new simple programming system, which saves a lot of electronics — and also results in greater reliability. The set is normally delivered programmed for all international channels, total 55, but it can without any other tools than a screwdriver be programmed for further channels, or be programmed so that practically any special request can be complied with (also land based stations).

Examples of programming:

All private and meteorological channels used in the marine VHF-band. Frequency ranges for both transmitter and receiver: 156,000-158,000 MHz and 159,800-163,200 MHz.

The simplex channels 75 and 76 with reduced output, when these are released by the authorities.

A switch can be mounted on the front panel, which allows selection of international or U.S. frequency standard (A-channels). Blocking of receiver

and/or transmitter on any channel.

The set can be programmed, so that for one or more channel an external information is submitted, e.g. for the blocking of extra receiver (river traffic).

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SAILOR with SELCALL

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COFI considers 'revolution'

SPEAKING at the 1978 meeting of FAO's Committee on Fisheries, the chairman, Dr. Mario Ruivo of Portugal, said the establishment of exclusive economic zones by most of the world's major coastal nations amounted to a revolution in world fisheries.

This "revolution" and its implications informed much of the 12th session of COFI during its five-day meeting in FAO headquarters in Rome in June.

COFI functions as a high-level advisory and review body, and this year it was asked by the FAO Conference to consider the implications for developing countries of the new EEZs.

These have given developing coastal states a far greater say in fish production and trade, added Dr. Ruivo. They also mark a big step towards the setting up of a new international economic order.

COFI agreed that high priority should be given to FAO's efforts to assist developing countries make full use of opportunities created by wider fishing zones. Any programme should be designed to increase national capabilities and to foster co-operation between states sharing common resources and common problems.

But the Committee stressed that it was up to each coastal country to decide for itself how it wished to take the opportunities offered and to carry the responsibilities.

Countries' wishes would vary from case to case. And in planning a programme these should be ascertained at an early stage.

"We will have to go through a transition period during which every effort should be made to maintain the level of total catch while new equitable solutions are worked out," said Dr. Ruivo.

The problem was made clear in one of the information papers prepared for the COFI meeting by economists in the Department of Fisheries.

Outlining the fishery commodity situation and outlook, this noted that the record world catch estimated at nearly 73.5 million tons in 1976 was not maintained in 1977. A preliminary

figure indicates a fall of more than two million tons. Although data are still incomplete, it seems that the main cause of this was a fall of 1.9 million tons in the 1977 catch of Peru.

Altogether, the developing countries experienced a decline in catch estimated at about 1.5 m. tons, down to 23 m. tons. That of the developed countries remained the same at around 27.8 m. tons, while the centrally planned countries went down about 0.8 m. tons to 19.3 m. tons.

Looking ahead through 1978, FAO's economists and resource experts consider it unlikely "that world fish production during this year will experience an increase."

In fact, the present state of some

major stocks, particularly Peruvian anchovy, North Sea herring, South African pilchard and Alaska pollock, suggests that a further decline may be unavoidable before these fisheries can be revived.

Also, agreements so far established indicate that distant water fishing within the EEZs of coastal countries will have to face a further decline, "which in some cases will not be compensated by the expansion of national fishing efforts of the countries concerned."

The general uncertainty over fishing opportunities and supply prospects which characterised 1977 will, therefore, most probably prevail through most of 1978.



LEFT: Committee on Fisheries chairman, Dr. Mario Ruivo, with (left) Herman Watzinger, head of FAO's Department of Fisheries, and (right) COFI secretary, J. E. Carroz

RIGHT: Delegates at the 12th session in Rome of the Committee on Fisheries

Blue whiting seminar at Nor-Fishing

HEADING: the two seminars scheduled for Nor-Fishing 78 in November are Phil Appleyard of FAO and Arnulv Midtgaard, managing director of Statens Fiskeribank in Norway.

Mr. Appleyard is chairman of the two-day seminar on post-harvest technology, details of which were given in FNI in July.

Four organisations — FAO, Norad, the Export Council of Norway and Norges Varesnesse, are collaborating in this ambitious project.

The seminar will be conducted in English and will take place on November 21 and 22. Sessions will deal with processing technology, investment needs of developing countries and the funding of these investments.

The fee for participating is 1,200 Norwegian kroner (about £120) and this includes lunches and all the papers. Mr. Midtgaard is running a one-day seminar on November 24, dealing with Expansion Possibilities in Blue Whiting Fishing.

According to Nor-Fishing, this is intended to inform Norwegian fishermen about the possibilities of developing the fishery for the species. This year 35 Norwegian ships took part in the short but intensive spring fishery and they caught more than 100,000 tons.

Short season

"The season for blue whiting is comparatively short, since fishing is usually concentrated on the period when the fish spawn," says Nor-Fishing. "The pattern of behaviour and extent of the shoals during their movement north, looking for food, have not yet been satisfactorily charted."

"Another important question is that of utilising the catches. Today, almost the whole catch is used for meal and oil. But efforts are being made to develop products for human consumption. These will also be discussed."

This is described as a special conference for Norwegian fishermen, and will be conducted in Norwegian.

The Nor-Fishing exhibition will be from November 20 to 26 in the Sjølyst Centre in Oslo.

Further information about the exhibition and the conferences from Norges Varesnesse, P.O. Box 130, Skøyen, Oslo 2, Norway.

the EEZ Committee on Fisheries Twelfth Session



Conflict in Europe's lake

FISHING in European waters will be the theme of a two-day conference which will be held in the George Hotel, Edinburgh, on November 6 and 7 this year.

The first day will focus on the EEC and fisheries.

Busy Eagle soars on

WITH the successful Catch 78 exhibition in Aberdeen, Scotland, now over, Eagle Exhibition Consultants is now preparing for its fishery exhibitions in 1979 and 1980.

The Eurocatch 79 exhibition will be at the National Hall, Olympia, London, from June 24 to 28. According to Eagle, all the ground floor space has already been sold, but there is still room for exhibitors in the gallery.

A feature of Eurocatch 79 will be a Scottish mini-show. This is being put on for small Scottish firms with limited budgets.

In June 1980, Eagle will be back in Aberdeen to stage its third Catch exhibition in the Scottish port. Catch 80 will be from June 24 to June 28.

Further information from Eagle Exhibition Consultants, 110 Fleet Street, London EC4A 3JL.

"One of the most important political issues in the EEC today," say the organisers, "is that of sea fisheries, especially now that with 200-mile limits the southern North Sea is virtually a Common Market lake and so many of the traditional distant water fishing grounds are being closed to foreigners."

The sessions on the second day will deal with Conflicts at Sea, with discussions of pollution, the oil industry and fishing, policing and enforcement and the concept of property in marine resources.

Also included will be a review of marine farming.

Further information about the conference can be obtained from European Study Conferences, Kirby House, 31 High Street, Uppingham, Rutland LE15 9PY, England.

Acoustics in fisheries

THE Institute of Acoustics in London is organising a meeting on Acoustics in Fisheries for September 26 and 27 at the Nautical College in Hull.

To be run by the Institute's Underwater Acoustics Group, it is the second on a fisheries subject. A meeting in December 1975 on Acoustic Surveying of Fish Populations was held in the Fisheries Laboratory, Lowestoft, and this is still in evidence through the demand for copies of the proceedings. This interest has encouraged us to arrange a meeting on a similar topic."

Further information can be obtained from the organiser, Mr. E. Allison, c/o White Fish Authority, St. Andrews Dock, Hull, North Humberside.

REYKJAVIK MINI-SHOW

A TECHNICAL conference and mini-exhibition is to be held in the Hotel Loftleider, Reykjavik, from October 3 and 4 to introduce a range of British equipment to the Icelandic fishing industry.

It is being organised by the British Marine Equipment Council and some 12 papers will be presented.

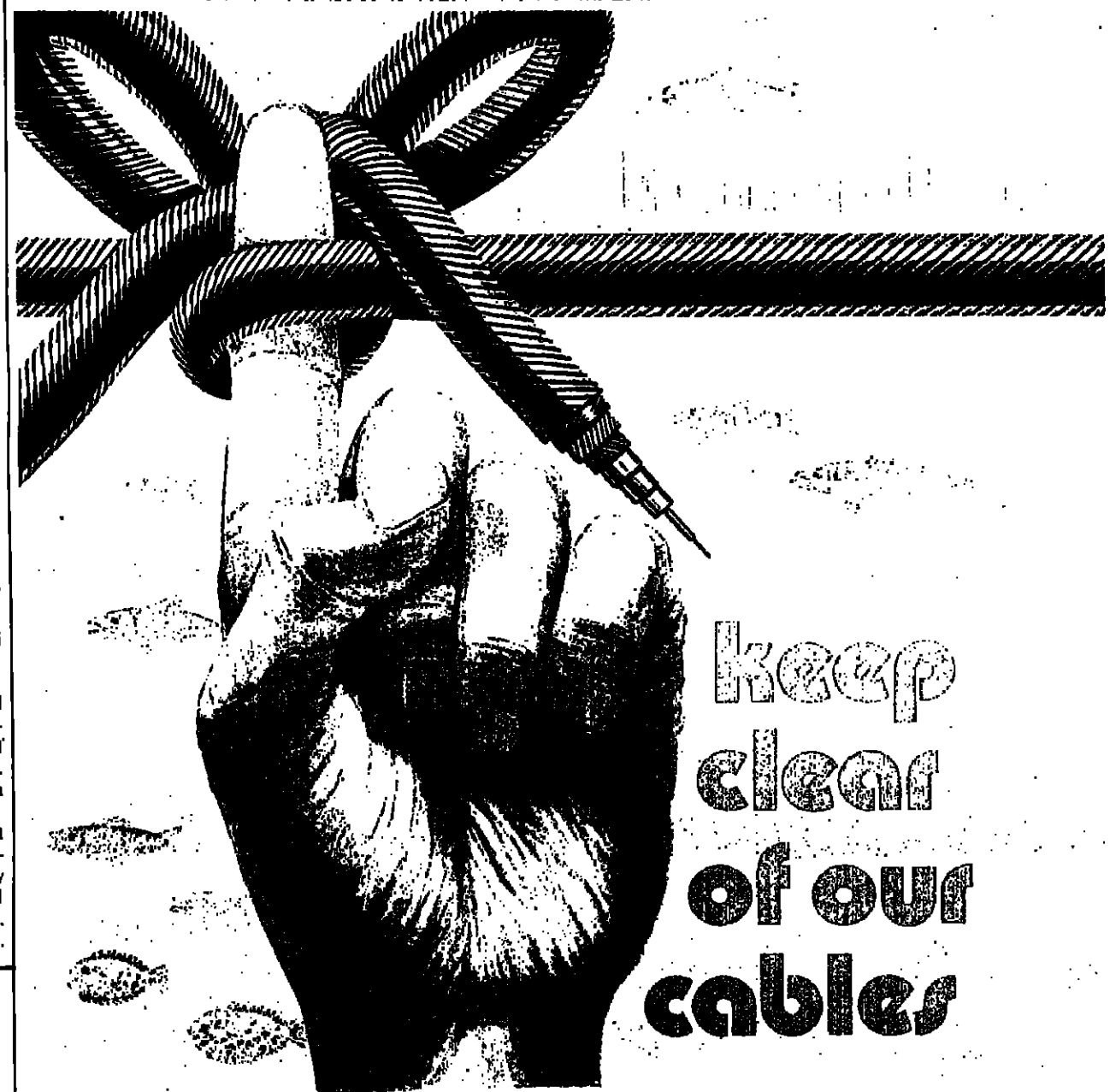
Subjects to be covered include bow thruster units and Kort nozzles, engine installation, controllable pitch propellers, refrigeration, marine pyrotechnics, inflatable liferafts, and radar.

THE NINTH World Fishing Exhibition, which was to have been held in the Bella Centre in Copenhagen in June 1979, has been postponed to 1980. It will be in the same venue from June 2 to June 9, 1980.

Announcing the change, the organisers, Industrial and Trade Fairs of Solihull, England, say that the new dates "avoid a clash of interest with the Norwegian marine exhibition in 1979 and also avoid conflict with the French exhibition to be held in Nantes in early June 1979."

It also provides a first step in establishing a regular calendar of international fishing and marine shows. ITF add that they have been able to secure more stand space for 1980. The exhibition will be twice as large as originally planned. In addition to its fishing content, it will also include all aspects of the marine industry.

The Danish Packaging Institute plans to hold a conference to run concurrently with the 1980 exhibition. This will highlight problems connected with the packaging of fish and fish products.



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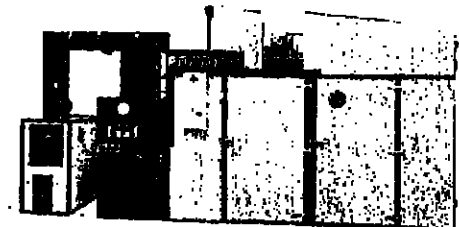
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DISTRIBUTORS IN ENGLAND FOR THE "ARENCO" RANGE OF FISH PROCESSING EQUIPMENT

Students flock to WFA courses

THE British White Fish Authority has had so many applications to attend its training courses "following recent advertisements in *Fishing News* and *FNI*," that some are booked solid for the rest of 1978.

"The response has been very gratifying," said WFA training manager Duncan Amos. Of 35 courses advertised in June, 21 were fully booked by early July.

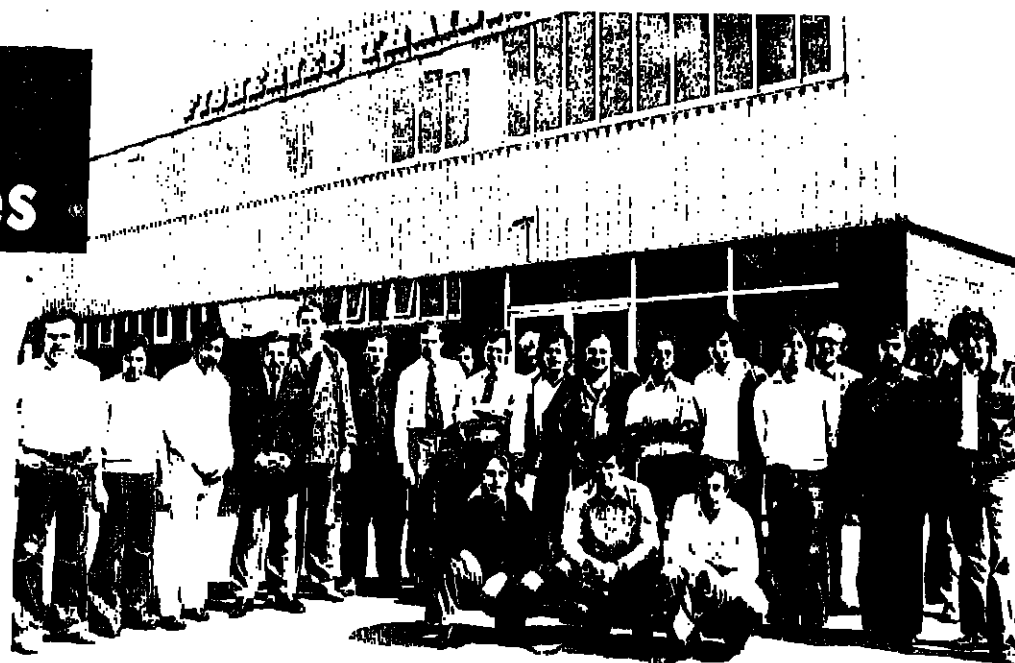
Particularly popular among the courses have been those dealing with fishing gear technology.

"The flume tank in Hull is like a dream come true for many fishermen," added Mr. Amos. "It allows them to see for the first time the effects that different rigging arrangements have on their trawls."

We now have over 40 different trawls, a couple of seine nets and a selection of trammel and gill nets for demonstration in the tank — in fact something for almost everyone."

Courses which still had some places open included the 12-week course in fisheries technology and management to be run in Hull from September 4 to November 5.

This course is intended mainly for graduates from developing countries. It includes fishing vessel construction, fish handling and preservation, fish gear technology, marine science, resource management and marine fish farming.



A group of British skippers and Mexican fishery officers outside the WFA training centre in Hull, where they recently attended courses in fisheries technology

TRAINING TOPICS

India centre awaits state go-ahead

THE INDIAN government is considering a proposal to establish a marine training centre at the major fishing port of Vishakhapatnam in the state of Andhra Pradesh.

According to Fisheries Minister Goka Ramaswamy, the fishing industry in the state needs a training institute in each district with at least 100 trainees in each.

At present there are only two centres for inland fishery technology — one at Warangal and one at Kurnool.

A third institute, for sea fisheries, is at Kakinada.

FOCUS ON BRITISH

THE British Ministry of Overseas Development organises a series of courses for fishery officers from developing countries. They last for a year and are run by the Grimsby College of Technology.

The idea is to give the officers a wide experience of modern fishing which they can use in their home countries.

Towards the close of the current course, a seminar was held at the ODM in London.

It was an innovation to project the role of the ODM and associated bodies in arranging these courses, and to demonstrate the wider role of the ODM in giving aid to developing countries.

Dr. D. N. F. Hall, Principal Fisheries Adviser at the ODM, chaired the seminar. He was supported by staff from the ODM, the British Council and the Tropical Products Institute.

The ODM has some £600 million to spend each year. There is no specific allocation to fishing. The way in which the money is used is up to the individual countries to decide.

Aid programmes can cover different requirements. In some cases a complete project for a particular industry may be set up; in others the aid may be the supply of technical expertise or specialised equipment.

In deciding the priorities of fishing projects, the ODM looks at different aspects. First, is there the possibility of the project increasing the amount of fish available to the consumer?

Second, comes the provision of more efficient fishing boats to optimise the catching methods and in a more general way will the project mean less

AID PROJECTS

report by
DAG PIKE

London seminar looks at where and how the money is spent

the catch and the amount of fish available. Allied with research is the need for training of which the fishery officers' course is an important part.

Dr. Hall spoke with a certain bitterness about the duplication of aid programmes. This is happening in many developing countries and leads to a waste of effort and resources.

In Britain's case, no projects would be considered if there was a hint of the same project being duplicated.

He felt that there was a need for an international clearing house for development projects to avoid duplication.

Most of the available money is given either as grants or loans.

The British Council places students for training and also arranges lectures abroad. The present course was originally set up to train British personnel working overseas, but is now largely orientated towards overseas students, a sign that the developing countries are rely-

ing less heavily on outside assistance and are developing their own expertise.

The fishery officers have a conflicting role to play. On the one hand they are educators, developing the standard of fishing; on the other enforcers, controlling the amount that is caught and the methods of catching in the interests of conservation.

turn to page 44

SHIP ASHORE

A SHIP has been built at Masstown, Nova Scotia, one mile from the sea and it will never be launched.

She is "berthed" at the Commercial Safety College near the shores of Cobequid Bay and is a mock-up intended to help in training stevedores and workers at fish factories and warehouses.

The shore-bound ship will be used to teach winch and crane operation for loading and unloading vessels. She is 55 ft long and is complete with cargo holds, masts and deck gear.

Help for small farmers

IN COLLABORATION with the Southeast Asia Fisheries Development Center (SEAFDEC), the three leading associations of fish producers in Western Visayas, Philippines, are launching an educational drive to guide small fish farmers to higher output.

The Western Visayas Federation of Fish Producers, the Iloilo Fish Producers' Association and the Aquatic Hatcheries International, agreed on a campaign which will include seminars, workshops and radio programmes.

Information distribution will also feature in the campaign, with the publication of manuals, brochures and other material on new aquaculture techniques.

Research findings by SEAFDEC will be collated and disseminated among the farmers.

Since it began its training and extension work in 1974, SEAFDEC has completed more than 30 training programmes and has provided extension services to more than 700 farms and other units.

THE PERIOD since early June has been especially interesting for we have been quietly celebrating the silver jubilee of our entry into the fishing industry. The first issue of the weekly *Fishing News* under my control coincided with the Coronation of the Queen. And from that revival was quickly born *Fishing News Books Ltd.*

The first quite fascinating occasion was a visit to the headquarters of HM Customs in London. This was made to present to the Librarian with a copy of the revised and reprinted *Multilingual Dictionary of Fish and Fish Products* because of its special value to customs officers in their handling of the world's expanding trade in this field.

We were rewarded by sight of many memories of over 300 years of historic occasions and documents. Quite entrancing. For instance: When the *Bellerophon* brought Napoleon Buonaparte a prisoner to England on 15 July, 1815, the captain manned his gig and hustened ashore to report to the authorities.

He told the gig's crew he would be back in two hours time. He was; but the gig was not. A long wait and enquiry revealed that a customs officer in investigatory mood had searched the gig and on finding in it eight bottles of wine which had not been declared had impounded it.

Private property

The ensuing correspondence between that irate captain and the customs people was blistering and illuminating: for the captain's gig was his private property and the wine was aboard unbeknown to him.

Interesting too was sight of Nelson's request to the Commissioners of Excise for the supply of wine for the Victory for that voyage which led to Trafalgar.

Approval granted by the Commissioners bears the same date as the request but the tradition of the Service, I was told, has it that it actually did take three days for permission to be given.

The list began thus: 50 dozen bottles of port wine, 50 dozen of sherry, 12 dozen Champaign (as spelled). Then the list tailed off to only a few bottles of cherry brandy, ordinary brandy and gin.

But let it not be thought that that supply was solely for the admiral and his officers. In that period when the Navy was the visible emblem of Britain's might it fulfilled the diplomatic role when visiting foreign parts of entertaining officialdom and ruling authority.

When I related the foregoing to one jubilee party consisting of the heads of leading scientific and commercial fishery organisations, a former naval officer of distinction supplemented my material by erudite quotation of many naval disciplinary rules relating to the Nelsonian period — alarming and drastic they were. And he confirmed that Nelson's body (victim of Trafalgar) was brought back to England preserved in a butt of good liquor for subsequent burial with full honours.

Another historic treasured document at Customs HQ was the official record of the flogging to death of a pressed hand by that captain of the Navy later to be known as Paul Jones when he defected from England to America in the War of Independence.

This is in Customs' hands because although they did not press men for naval service, once they were in the Navy, customs officers were charged with the keeping of their records of service and fate.

And this page of history, I was told, is deeply attractive to American visitors. Request had even been made for permission to reprint it on T-shirts for distribution in the USA. Not granted!

The Paul Jones dance is, of course, named after the character mentioned. Reason? He changed partners as is done in the dance.

As we had presented 'his Library

walkabout talkabout

with Arthur J Heighway



with a dictionary of some distinction. The Librarian was insistent on showing us an earlier dictionary of fame: Namely that of Doctor Samuel Johnson produced by him and a team of a dozen amanuenses at his residence in Gough Square behind Fleet Street.

Johnson died in 1784 and the Customs Service was officially established by Charles II in 1761. That dictionary was one of its early purchases.

Two copies of part-I of the first edition were on display in a locked cabinet. One is undamaged; the other pierced by a fragment of a bomb in the Second World War. It eliminated the word "exciseman" — to the amusement of the service.

I asked the privilege of holding in my hands that first edition of Dr. Johnson's work for it had an special association for me.

Soon after I launched my company 25 years ago I founded a printing journal. To mark the occasion, I gave a number of special parties to bring together the different sections of the printing industry — ink makers, block makers, machinery people and the different sections of printers who, to my then surprise, I found had practically no contact with each other.

Those parties were staged in Dr. Johnson's house by special permission for it had been beautifully restored and equipped by Lord Harmsworth.

One outcome of them and the cohesion thereby originated among the printing fraternity was the establishment of the now famous Wynkin de Worde Society in commemoration of the first established printer in London.

That same purpose of facilitating contact between the different responsible sections of fisheries underlies our party practice. And the benefit derived by those participants in recognition of our jubilee was marked.

Conversation was wide-ranging and stimulating, personal recollections and views were exchanged and relationships established.

But although this "Walkabout" permits diversification I must not wander too far from the present. So back to the present.

Aquaculture project

I am delighted to learn of the double purpose of the huge artificial marina recently established at the coastal town of Brighton on the Sussex coast of the English Channel. It is the scene of a remarkable project in marine aquaculture.

The large metal caissons — hundreds of them — which form the outer breakwater are open to the flow of sea water and it is in their interiors that the scientific raising of lobsters, scallops and oysters is being conducted.

Those interiors are so arranged as to accommodate containers for individual lobsters and below them shelves bearing trays of seedling scallops or oysters. The steady flow of tidal water provides the basic nutrition for all these animals.

Supervision by skilled staff is provided through ready-access facilities. This ensures that the seedling scallops and oysters are picked over as frequently as required and transferred to trays giving room for their growth.

The individual cages for growing lobsters prevents crowding and fighting between these combative crustaceans. The darkness within

those caissons helps growth.

I await with great interest fuller details in due course of the outcome of this project.

Increasingly, various forms of coastal farming are being undertaken in many areas of the world.

In the United States a special Aquaculture Development Workshop has been established on the coast of Maine.

From the first years of operation, 21 students embarked on active work in aquacultural enterprises and in this year's class there are 53 students of various ages.

The main lure is basically shellfish of one sort and another.

The world mussel harvest rose from 100,000 metric tons to 350,000 tons between 1953 and 1973, but while supply thus rose 250 per cent price rose 900 per cent. Local rises in price for shellfish all along the American coast, as elsewhere, show ever-increasing demand so expansion seems assured.

And here's something to talk about. A potential service of immense value to the fishing and naval interests of the world is promised by the launching recently by the United States of a marine satellite.

Weather watch

It is equipped with instrumentation which will register all weather indications, the up-welling of waters, noticeable concentrations of fish and even — a remarkable refinement this — the concentrations of those nickel, manganese and other mineral nodules on the bed of the oceans, the wealth of which has so excited the cupidity of the nations as I mentioned a few months back.

The work of this marine satellite will be watched with much interest.

Instead of killing a whale every 20 minutes as in recent years, mankind will now in future, kill them at the rate of one every 30 minutes, which means that the effort to ban killing in toto for ten years has failed.

The proposed resolution to the International Whaling Commission, submitted originally by Panama, was withdrawn and that country's delegate changed, allegedly, under Japanese pressure about a five million ton sugar deal; and the Whaling Commission agreed only to reduce the killing rate by about five per cent with the fate of thousands of sperm whales in the North Pacific still to be decided in December.

The Greenpeace Foundation, which aims to save the whales if possible, still aims to harry potential killers as much as possible.

It has been so far quite brilliantly successful near Hawaii. There, a special breeding ground for one variety of whales has become a tourist attraction with marine excursions of sightseers to witness the annual congregation of mother and baby whales.

In the 11-year period 1959-1970, United States consumption of milk dropped by 20 per cent while that of soft drinks rose by 79 per cent; consumption of fruit, vegetables and potatoes fell 50 per cent while "junk" foods rose by 67 per cent and potato crisps by 85 per cent.

Why? Mass advertising by food processors. Authorly? Review in *PAO Journal Cereals* which is full of hard solid material.

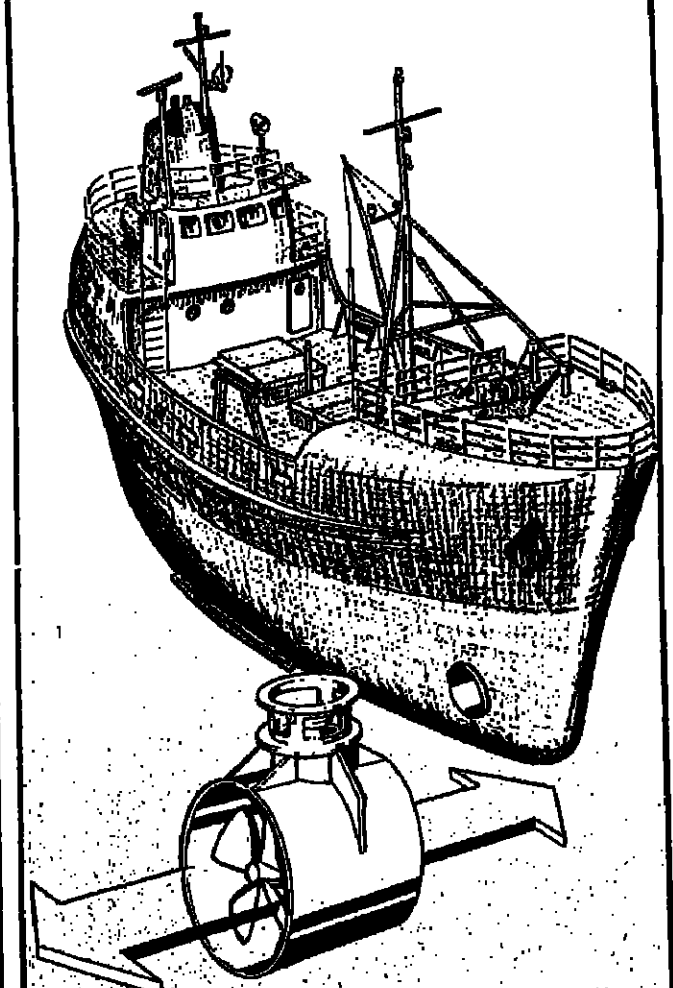
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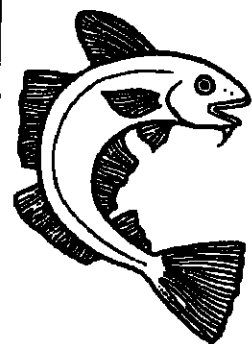
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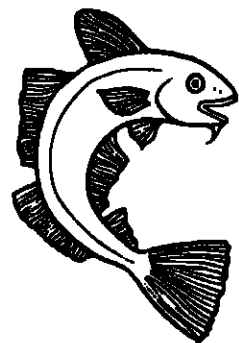
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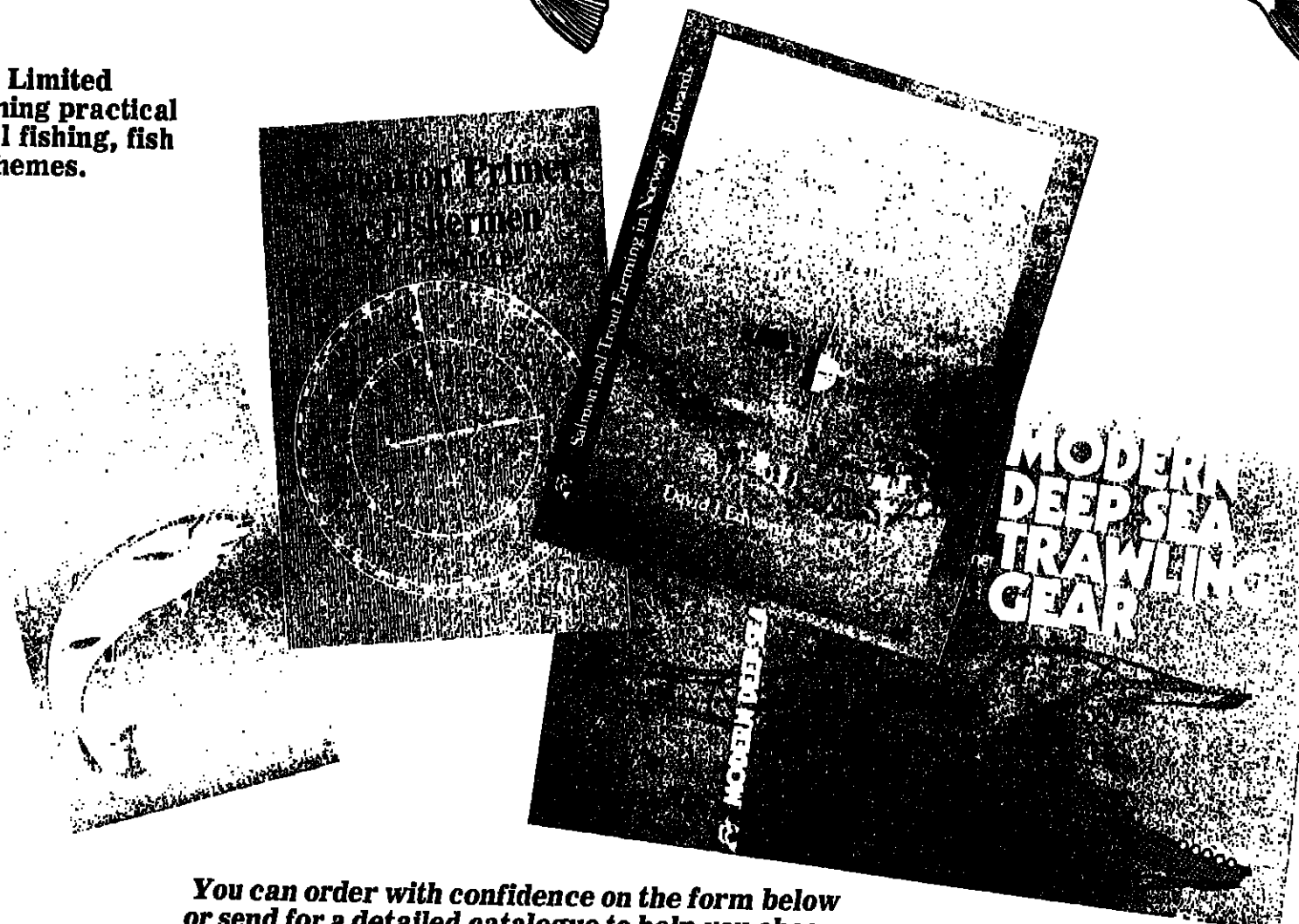


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<input type="checkbox"/> Handy Medical Guide for Seafarers — Scott	£2.00	<input type="checkbox"/> Tuna: Distribution and Migration — Nakamura	£3.00
		<input type="checkbox"/> Underwater Observation Using Sonar — Tucker	£4.00

BARGAIN CORNER

Escape to Sea — John Burgess

A vivid description of the author's escape from deskwork in the '30s, via the Australian bush, to the sea career which gave practical knowledge for his current writings. His world-wide adventures pointed to many ways in which a living can be made from the sea; the book ended with guidance on fishing methods, places, training. Some of this detail is now dated which means you can now buy this lively yarn for £1 only.

To: Fishing News Books Limited, 1 Long Garden Walk, Farnham, Surrey, England. (Tel. Farnham 26888) (Registered in England No. 412078. Reg. Office: Lee House, London Wall, London EC3).

Please forward the books marked which cost £

Plus 5% for packing and postage £

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Name

(Use block letters please)

Address

Signed

Date

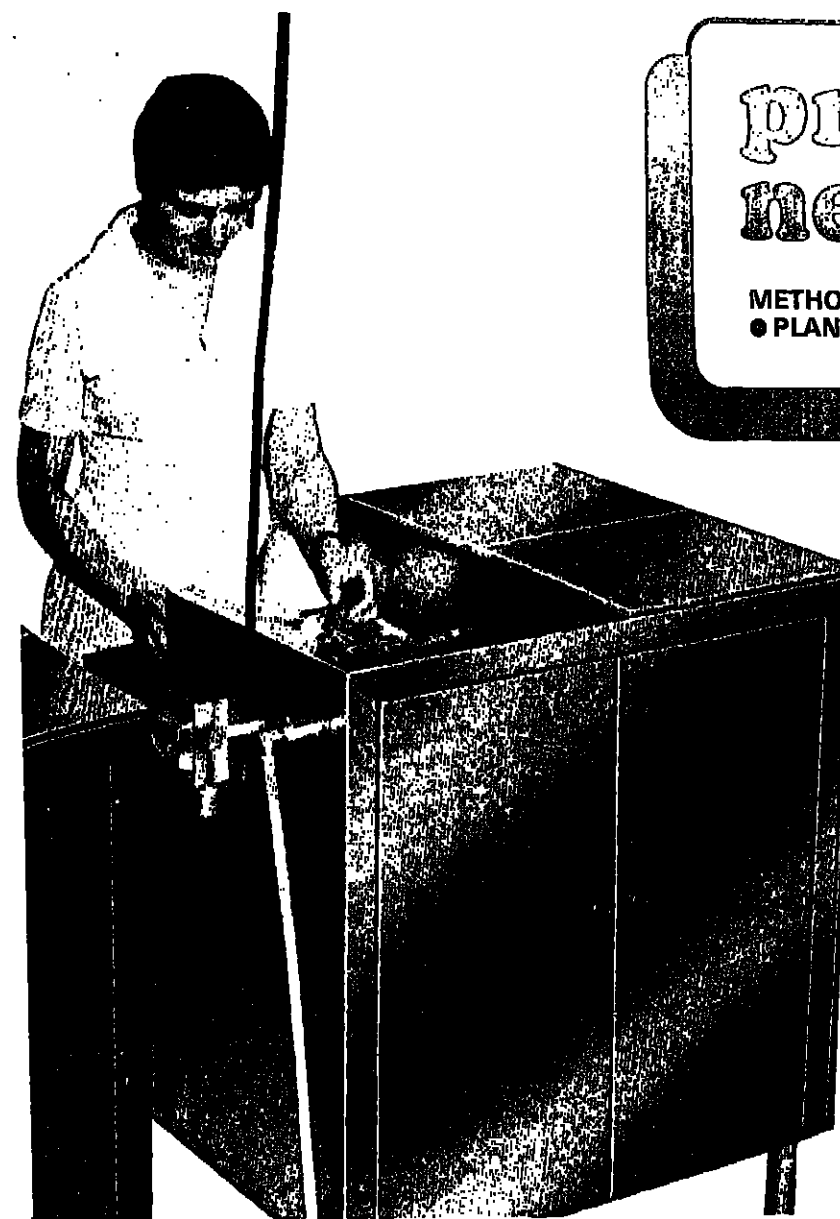
Ref. FNI 8/78

product news

METHODS • GEAR • EQUIPMENT
• PLANT • COMPANIES

SMALL SHRIMP

PEELER CAN TRIM COSTS



GREGOR Jonsson Associates Inc. has introduced a new shrimp peeling and deveining machine which is claimed to reduce labour costs while increasing yield.

The Jonsson Model 30 machine can peel either fresh or frozen (thawed) raw headless shrimp from 10/15 to 71/90 count per lb at a rate of 4,300 an hour without adjustment for varying sizes.

Production depends on the average size processed and can range between 50 and 430 lb an hour — the equivalent of seven or more experienced hand peelers.

30 requires a water line able to supply 100-125 gallons an hour at 25-50 psi pressure and an electrical supply of 115V or 230V single phase, 60 cycle current.

The compact Model 30 measures 38 1/2 in. (98 cm) wide by 27 in. (68 cm) deep by 37 in. (94 cm) high.

Compact

Describing the machine, Jonsson says the Model 30 removes the vein, removes all the shell and completely separates it from the meat. It is designed for processing IQF-peeled and deveined shrimp but can be easily adapted to produce tail-off butterfly split shrimp.

The machine is claimed to be easy to operate and so does not require skilled labour. For installation, the Model

Also available is a study by Gregor Jonsson Associates showing the increase in yield or reduction in breakage of IQF-P&D shrimp necessary to justify converting from bulk peeling to a Model 30.

A copy of this study and further details of the new machine can be obtained from Gregor Jonsson Associates Inc., 1520 Berkely Rd., Highland Park, Illinois 60035, USA.

Norway's new plants



At the end of the shrimp peeling lines, where the yield is permanently controlled

DURING May and June, the Danish firm of consulting engineers, Matcon ApS, completed the delivery of four large processing plants for shrimp in northern Norway. The Norwegian industry, based on the pink shrimp (*Pandalus borealis*), has been expanding steadily in recent years. The catch in 1977 amounted to 25,800 metric tons.

Matcon prepared the plans and layout for the Norwegian plants and designed essential components of the production machinery. It also organised the tender specifications, evaluated the offers, controlled deliveries and checked quality.

Investment

Danish and Norwegian engineering firms participated in the manufacture and supply of machinery and equipment. Investment in the plants varies between four and five million Danish kroner (about

£390,000 to £490,000). Processing capacity is 2,000 to 2,500 tons of shrimp a year.

For the plants, special feeding machinery was designed and developed by Matcon. All peeling lines receive equal, predetermined amounts of shrimp. This makes it possible to get maximum output from the peeling machines, and facilitates simple, continuous control of yield.

Saving

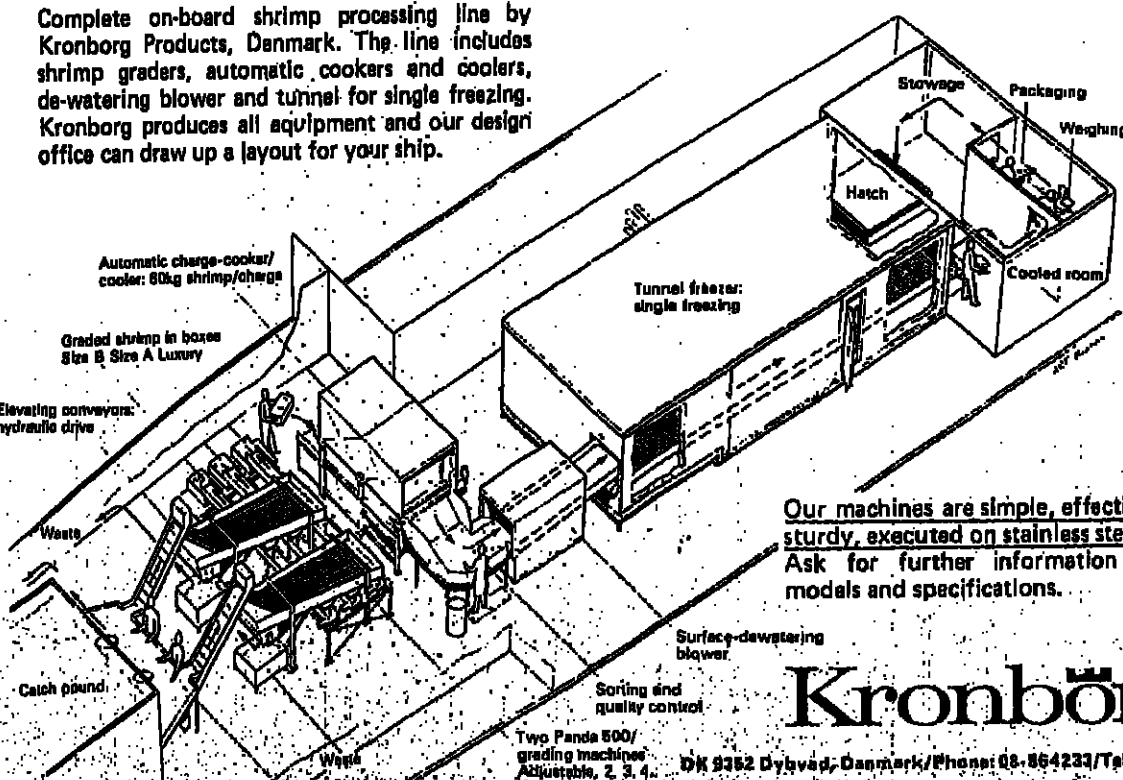
Each single per cent that a peeling machine deviates from the normal, says Matcon, means a difference of some 500,000 kroner per plant per year.

"The production control system we have developed," it adds, "makes it possible to detect deviations a few minutes after they occur, and immediate corrective actions can be initiated."

Matcon specialises in designs, systems and plant for handling, processing, preserving and canning fish and crustaceans.

ON-BOARD SHRIMP LINE

Complete on-board shrimp processing line by Kronborg Products, Denmark. The line includes shrimp graders, automatic cookers and coolers, de-watering blower and tunnel for single freezing. Kronborg produces all equipment and our design office can draw up a layout for your ship.

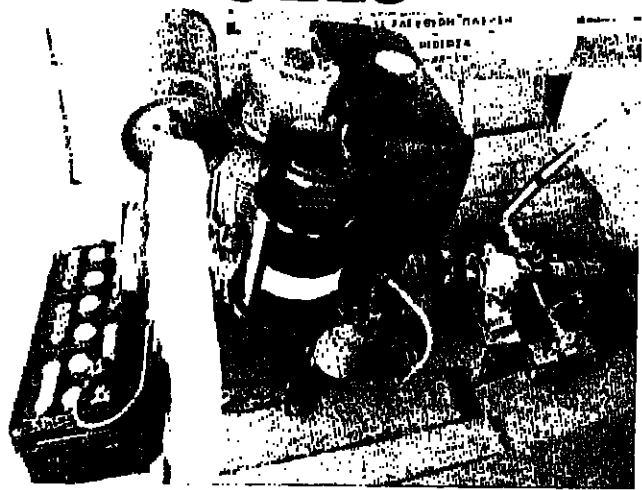


Our machines are simple, effective and sturdy, executed on stainless steel. Ask for further information about models and specifications.

Kronborg

DK 2352 Dybbø, Denmark/Phone 06-864224/Telex 60385

DEUTZ 'SINGLES'



One of the new Deutz engines.

TWO NEW single-cylinder diesel engines introduced by the German manufacturer Deutz are finding increasing applications in small fishing boats, reports FNI correspondent Dag Pike.

In common with most of the Deutz range, the

Asia deal

SEMBAWANG Shipyard of Singapore and AB Hedemora Verkstader of Sweden have set up a new company for marketing, manufacturing and servicing Hedemora diesel engines in South-East Asia, Australia and New Zealand.

The new company, Hedemora Diesel SEA (Pte), will be based in Singapore and will start operating in October.

According to Mr. L.O. Bergqvist, managing director of the company, the whole Hedemora engine range — type VA as well as VB and from 540 to 3200 hp — will be included.

Sembawang Shipyard is one of the major yards in South Asia.

engines are air-cooled. In Mediterranean countries they are being used both for new construction and as replacement engines in existing boats, particularly small artisanal type craft.

The two models are the FIL208D and the FIL210D. Each features a single air-cooled vertical cylinder. The fuel tank is part of the engine package which also includes a belt-driven alternator.

A small power take-off pulley can also be used as a hand starter in conjunction with a cord. An oil cooler is fitted alongside the crankcase.

The engine is installed as a complete package with only the exhaust to connect up. A simple controllable pitch propeller can be connected to the engine to further simplify the installation. The outputs available range from 3 to 8 hp on the 208D and from 7 to 14 hp on the 210D.

NET FIRM REORGANISED

THE APELDOORSE Nettenfabrik ANZA of Apeldoorn, Holland, is being reorganised to concentrate on products for an international trawl and purse seine market.

The company is backed by experience of nearly 100 years of supplying to the fishing industry. It has three well-known associates — Jmuiden Stores (Holland), Anza France and Hermann Engel & Co. (Germany) — who are specialists in the design and construction of nets.

Each specialises in a certain aspect of the market.

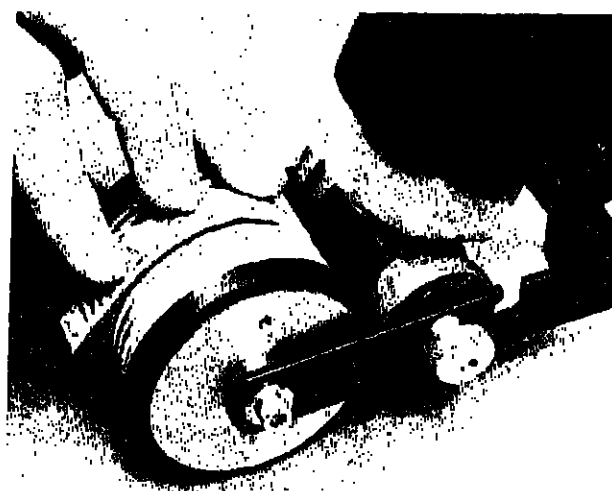
Recently, for example, Engel nets played an important part in opening up the North Atlantic blue whiting fishery. Anza has been active in providing nets for Scottish bottom pair trawlers.

Purse seine nets from the Anza range extend from small knotless seines up to the vast nets of Spanish, French and Portuguese tuna ships.

product news

METHODS • GEAR • EQUIPMENT
• PLANT • COMPANIES

SMOOTH ROLLER



Lawtons' hand-printing roller: Smudge-free.

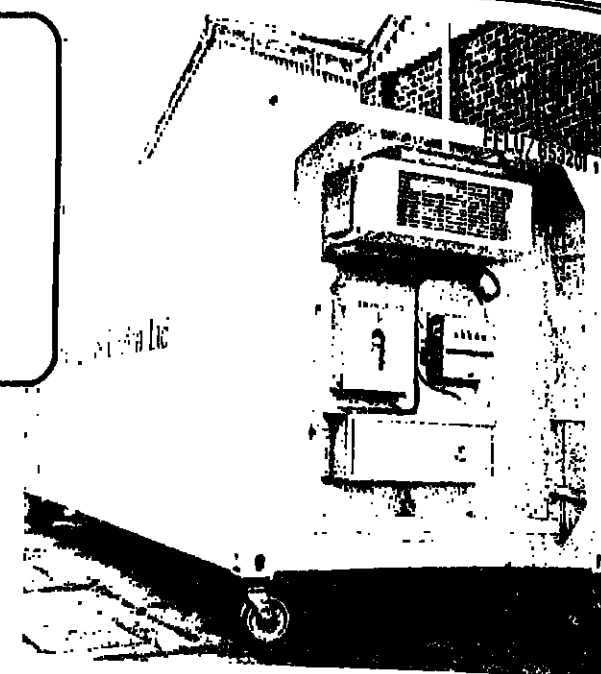
LAWTONS of Liverpool Ltd., have introduced a new "ingeniously simple" hand printing roller to apply crisp, smudge-free impressions on non-porous surfaces such as glass, laminates, sheet metal, shrinkwrap film, plastics and other glossy finishes.

The Lawco Riblok Model A Flexo Roller incorporates a specially-designed cartridge — the Lawco Flexoreel — which utilises an extremely fast drying ink.

This cartridge is rechargeable and can perform many thousands of operations before it needs changing.

The roller is available in unit form or in kits comprising one printing roller, four cartridges, one priming tool and a priming solvent.

Further information from Lawtons of Liverpool Ltd., Coding and Marking Division, 60 Vauxhall Road, Liverpool L69 3AU.



Transfrig's transport refrigeration unit adapted for seagoing container duty.

COOLER SWITCH TO TAKE FISH

PACKAGED refrigeration units designed for road transport have been successfully adapted for seagoing duty by the manufacturer, Transfrig Ltd.

The first two marine versions were used for shipping frozen fish from the Canary Islands to Britain.

Adapted

The containers are Transfrig's DE190 units and they were adapted for Fruit Freighters (London) Ltd. Integral refrigeration equipment was needed because the cargo ship used was not designed for carrying containers.

A standard DE190 re-

frigeration unit is fitted with a compressor driven by a diesel engine, and it also has an electric motor drive for emergencies or quiet overnight running at the depot.

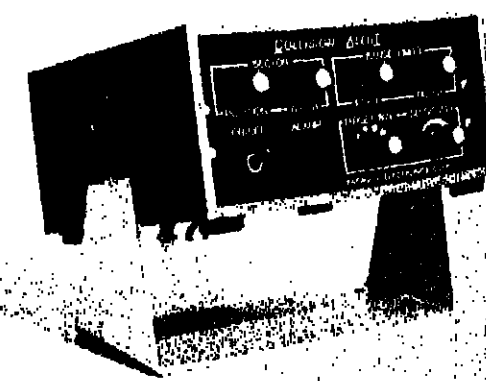
For marine use, the electric motor became the principal drive and it is rated for plugging into the ship's main.

The Transfrig equipment had also to be protected against the marine environment. All exposed surfaces were finished with marine quality paint and certain components, such as fan shafts, were made from stainless steel.

Each container holds about 500 cartons (about 12 tons) of fish which is deep frozen to 20 degrees C before loading.

Further information from Transfrig Ltd., Cranbourne Road, Gosport, Hants. PO13 1RJ.

CAT'S-EYE ON RADAR TARGETS



Paragon's CAT collision-avoidance system for radars.

A COLLISION avoidance system for radars has been introduced by Paragon Electronics of Bellevue, Washington, called the CAT, the system evaluates radar targets that fall within pre-set ranges, sectors and echo sizes.

When a qualifying echo is received, an audio alarm is sounded and an acquisition light is flashed. A "valid" target causes the alarm to trigger on each sweep of the radar.

The inner and outer ranges being monitored by the CAT may be adjusted independently to any desired range between 0.2 and 16 nautical miles. This permits wide or narrow zone protection at the option of the operator. Sector position and width controls may be set to include any sector between 5 degrees and 360 degrees of the protected zone. The CAT is easily interfaced with all solid-state radars.

Further information from Paragon Electronics, P.O. Box 1456, Bellevue, Washington 98009, USA.

Space saver from Norway

...and the Hjelset Combi-Gear saves on the fuel too

A NEW propulsion system claimed to achieve considerable space saving in vessels with main engines from 1,000 to 1,500 bhp has been developed by the Norwegian firm Hjelset Motorfabrikk A/S of Aalesund in collaboration with the Institute of Fishery Technology Research.

The Hjelset Combi-Gear MCG 1600 is handled by Helix A/S which is the joint marketing company for c.p. propeller, reduction gears, nozzles, thrusters and controls for the A. M. Linsen, Kvaerner Brug, Hjelset, Volde Mek. Verksted and Helitron.

In a conventional propulsion plant, says Hjelset, the engine is installed at the forward end of the engine room. The reduction gear is mounted aft of the engine. It has a built-in thrust bearing and in many cases also a built-in hydraulic servomotor for operation of the c.p. propeller.

Power take off

On some gears there is a built-on power take off (PTO) for the deck machinery. This is most frequently connected to the forward end of the main engine.

This in-line arrangement takes up considerable space which might be used for cargo or to cut the design length of the vessel. To change it, Hjelset now offers the Combi-Gear which consists of a reduction gear and two PTO drives, all acted on by two high-speed diesel engines.

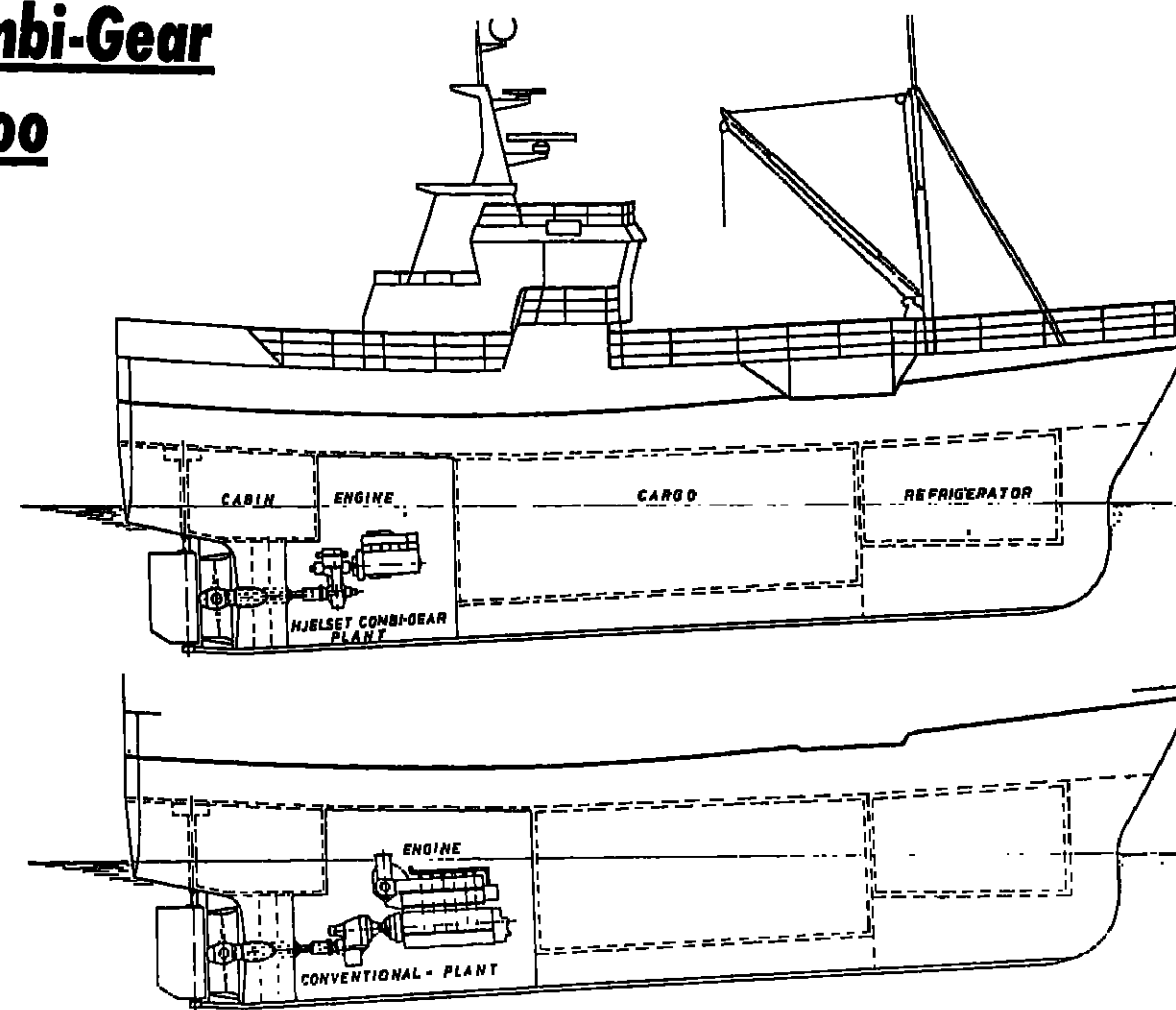
The engines are connected to the pinion wheels through separate clutches and to the bull gear through intermediate wheels forming the twin-input, single-output reduction gear.

The c.p. propeller's hydraulic servomotor is built into the bull gear wheel. Thrust bearings are of the Mitchell tilt segment type. Sited on top of the reduction gear, the PTO drives can be engaged or disengaged either independently or, or simultaneously with, the gear.

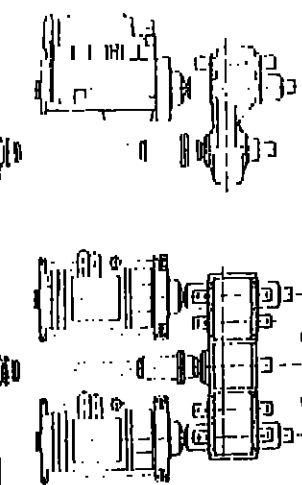
With the Hjelset Combi-Gear, the engines can be mounted either forward or aft of the gearbox. But the space saving is greater with the aft end mounting.

According to Hjelset most of the high-speed engines now on the market within the 1,000 to 1,500 hp range can be adapted to the Combi-Gear.

Apart from space saving, the designers claim several other advantages for the Combi-Gear. These include more flexibility for auxiliary power through the two PTOs, improved fuel economy by running only one engine when power demand is moderate, easy replacement of an engine, and reduced total weight.

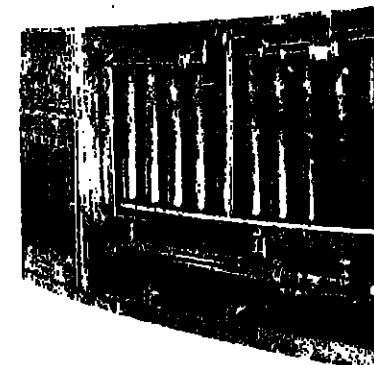


Comparison of Hjelset Combi-Gear with a conventional plant



Alternative diesel engine arrangement for the Combi-Gear MCG 1600

CANADA FIRM BRINGS IN SMALLER ICE-MAKERS



The Galt ice machine

FACTORY EXPANDS

ASHOK LEYLAND of Madras, India, has obtained an industrial licence to increase its capacity to manufacture marine engines from 720 a year to 1,500.

According to the company's chairman, S. Bangunathan, there is a great potential for marine engines in view of the Indian government's plans to expand the fishing industry.

A foreign currency loan to cover imports of machinery for the expansion programme has been approved by the Industrial Credit and Investment Corporation of India.

GALT Equipment Ltd., manufacturer of automatic shell ice makers in Canada under licence, has extended its range of six to 24 tons models to include small units of 0.5 ton to 3.5 ton capacities.

The firm's shell ice makers are now also available for making seawater as well as freshwater ice. And they can produce ice of different thicknesses up to 20mm.

For installation aboard fishing vessels and to make ice from seawater, two models of 1,000 and 2,000 lb/day capacity have been introduced.

Further information from Galt Equipment Ltd., 47, Marie-Victorin Blvd., Candiac, Quebec, Canada J5R 1B6.

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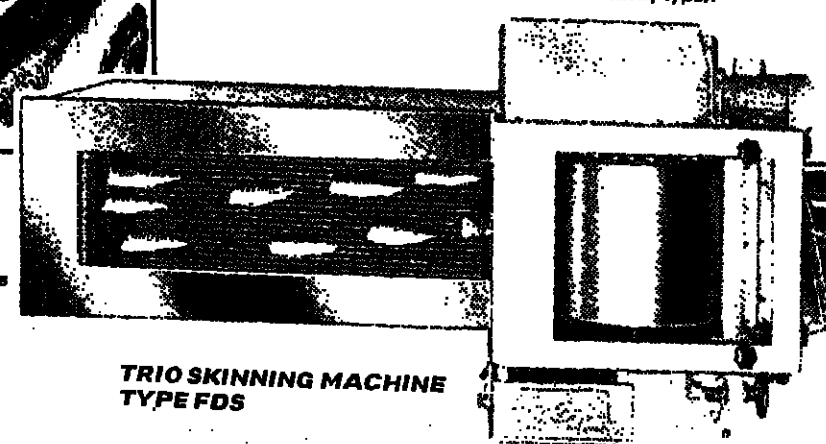
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From single units to complete turn-key projects. One among our specialties is the skinning machine. Suitable for skinning every kind of single and double fish fillets (i.e. Butterfly type).



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No need to dock for hull cleaning

A METHOD of cleaning ships' hulls and repairing equipment at sea has been tested in the Soviet Union. It is seen as particularly useful to fishing craft working far from their base.

More than 500 ships have been cleaned at a saving equal to about £1.5 million, reports Novosti Press Agency.

Members of the cleaning and repair team have light conventional diving equipment with special cleaning gear.

On their last expedition, they cleaned the hulls of ten medium freezer trawlers which had been at sea from four to 17 months.

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General Automatic FISH SCALING MACHINE

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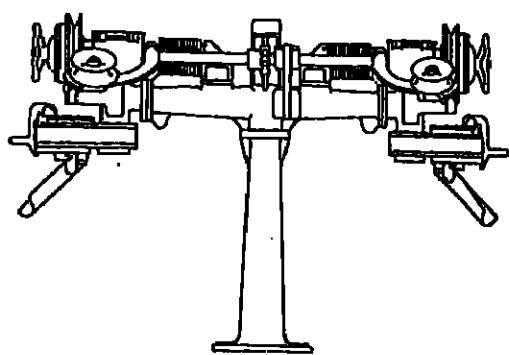
Self adjusting — Easy to clean.

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LETTERS

FAO takes no position on seal hunting

SIR,

In publishing and commenting on a letter from an officer of this Department and one of its consultants in the June issue of *FNI*, you have misunderstood the nature of the letter and on that basis have erroneously attributed a position to FAO.

FAO does not and cannot take a position such as you suggest. Through its technical services the Organisation can assist its member governments, individually and in international bodies, to have access to the best possible scientific advice on issues such as control of seal stocks.

Our position in such matters in general, and in this matter in particular, has not changed, and the letter to which I refer gave you no basis for suggesting that it had.

Neither the heading to the article in the June issue nor the sense of the first two paragraphs of editorial comment which accompanied the letter corresponds to fact or is justified by the contents of the letter.

Your 'From the dockside' column comments in the March issue were a direct challenge to the Council of Europe decision and in part directed attention upon matters concerning the dynamics of populations of aquatic organisms; the purpose of the letter was to present some alternative

scientific views on those matters. To describe that letter as the official view of FAO on the Council's decision, as an expression by FAO of "concern over the activities of two or three of its developed countries in northern waters," and as a challenge from FAO to sealers, is, I fear, editorially irresponsible.

Technical

The comments in the letter are strictly technical in nature and were not chosen and presented for the purpose of advocacy; any appearance they may have of favouring the decision of the Council derives from their scientific content, not from special pleading. If these com-

ments are to be held to be *pari passu* then every scientist who presents evidence and argument in a committee of ICES or in the Scientific Committee of the IWC is to be viewed as an advocate. I am sure that *FNI* is well aware of the separation between the formulation of scientific advice and the taking of formal decision based on it.

From the foregoing, your readers will understand that the letter had nothing to do with FAO policy and I trust that they will also appreciate that it presented views solely of its signatories.

H. Watzinger
Assistant Director-General
Fisheries Department
FAO, Rome

Don't let sentiment cloud the issue

Sir,

Reading your comment on seal culling in the March issue of *FNI* and then the letter which you published in the June issue, I enter into the correspondence with some trepidation. Dr. Holt and Joanna Gordon-Clark have taken the subject to a level of complex and interwoven argument more worthy of the schoolmen of the Middle Ages than of modern scientists. What would T. H. Huxley have thought of it all? He described science as organised common sense!

One longs to say just this: seals eat huge quantities of commercial fish as well as being reservoirs of cod-worm. So why not keep them culled to reasonable proportions?

The daily consumption of fish by gray and common seals around Britain, for example, is estimated by Bonner (NERC 1976) at between 465 and 827 tons, 24,180 to 43,000 tons a year.

As you said in *FNI* in March, "seals are attractive creatures with a winsome appeal." They thereby evoke a strong protective reaction from the general public, especially in Western Europe (which has not experienced the horrors of war for 30 years).

I had to shoot seals for food years ago when I was stranded in Spitsbergen. The innocent look in their eyes as I put a bullet through their brains haunted me for some time.

Putting psychology aside, I remember an urgent call from a Grimsby trawler many years ago. The ship had a catch of heavily parasitised cod from Canadian waters. How could they avoid a repetition of this problem?

I referred them to the grid maps produced by Templeman in 1957 showing percentages of infestation around Newfoundland and in the Gulf of St. Lawrence, as well as to the Torry Research Station leaflet explaining the connection between cod-worm and seals. I must say that I really received thanks for explaining and preventing another commercial disaster in language that I cannot print.

Scientists are not popular with the "practical men" and when they come up with something useful there is often over reaction. So let us not let sentimentality and "ivory tower" thinking obscure the urgent need to keep seal populations humanely culled from year to year, especially now that many commercial fish stocks are lower than they have been in recorded history.

Cookham Dean,
Berkshire,
England.

Dr. F. C. Stott,

BANK STUDIES NEW FISHERY PROJECT

A COMPREHENSIVE study of the fisheries sector in the Philippines is to be financed by the Asian Development Bank (ADB). It will be carried out by staff of the FAO Investment Centre who will produce a feasibility report on an integrated development project.

The team will first examine the country's overall fish resources (including inland fisheries). It will then review the five-year fisheries development plan (1978-82) to identify and rank potential projects.

Implementation of what appears to be the most promising project will be financed by ADB in a way similar to that of the

development of the fishing port of Navotas near Manila.

The ADB provided a loan of US\$5.5 million for the Navotas project. The new port is now in operation.

A coastal fishing area or a farm pond area is likely to feature in the next project. Fishing in the Philippines provides employment for about 500,000 Filipinos.

FOCUS ON BRITISH AID

continued from page 38.

There could well be a requirement to separate these two roles in the future, but with the present level of exploitation, there was not too much conflict.

The second half of the seminar was more commercial. Members of three firms connected with supplying aid looked at the potential and the problems.

Mr. P. Proude, of Fisheries Development Ltd., considered the role of the consultant both in supplying expertise to the ODM and to the developing countries. In the latter, the consultant can help in providing the information, particularly financial information, which will make the project acceptable.

Mr. E. W. H. Gifford, who developed the Catfish 36 and Sand Fisher 24 catamarans, explained the viability of these craft in expanding the catching power without the need for harbours.

Some of the comments about the use of these craft in the field gave an insight into the problems of giving aid to developing countries.

Finally, the use of ferro-cement fishing boat construction in developing countries was outlined by David Elliott of MacAlister, Elliott and Partners Ltd.

Ferro-cement is being used to replace traditional wooden construction where it offers the benefits of rugged cheap construction without the need for any high technology.

Several projects are underway and MacAlister, Elliott are among the leading experts in this field.

Students on the present course came from Malawi, Senegal, Burma, Sierra Leone, Nigeria, Belize, Kenya, Tonga, Kuwait, Malaysia, Indonesia and Zambia.

Big firms or small fishermen

continued from page 23.

seines, gill nets, long and trolling lines) and to improve handling (ice, cold storage) to prevent the very high losses through spoilage which is estimated at around 30 per cent.

"Such measures," a senior fisherman said, "if fully supported by the government of India and the state governments, would lead to an increase in landings of at least 50 per cent, a much greater catch than is likely to be made by the envisaged deep-sea fleet."

As in any kind of development programme in any country, there are conflicting views.

Perhaps in this Indian situation the most practical approach would be to give strong support to the small-scale sector, assured that this would lead to a substantial increase in catch and boost the earnings of the artisanal fishermen, while exploring the deep-sea fisheries potential with, say, two or three vessels and add to the fleet as and when fishing results justify it.

Converted researcher sets off for Brunei



ON HER WAY to a new career. The 50 ft (15.24) steel-hulled fishing boat *KP Lumba Lumba* sets off from Hull last month for the Port of London. There she was loaded aboard a cargo ship for Brunei in South-east Asia where she will operate as a research, test fishing and training vessel.

Built as the *Girl Rona*, the *Lumba Lumba* (the name means dolphin) was acquired for the government of Brunei by the White Fish Authority.

As reported in *FNI* in April, she is intended to help in the development of small-scale fisheries in the country. Local fishermen will form her crew but for two years Skipper Mervin Hough from Britain will command the vessel.

He leaves for Brunei early this month. One job, he told *FNI*, will be to assist in the training of two local men to take over the boat.

The *Lumba Lumba* will work over a wide area using her range of fish finding and catching equipment to try and determine the methods most suitable for Brunei fisheries.

Last month, he said, he had paid a short visit to FAO headquarters in Rome. Although Brunei is financing the project itself, it is hoped that there will be an inter-change of information with FAO's South China Sea Project.

The package also includes a promise of co-operation in research between the German Institute for Fisheries and the Instituto Nacional de Investigación y Desarrollo Pesquero in Mar del Plata.

founded in October, 1977. This co-operation is intended to improve knowledge of the size of the resources and the potential of stocks on the Argentinian shelf for long-term utilisation by commercial fisheries.

To carry out the work, the *Walther Herwig* remained in Argentina after the krill expedition. She took on six German and six Argentinian research workers and left early in May for studies of waters south edge of the Burwood Bank. This included an intermediate call at Ushuaia in Tierra del Fuego.

The second voyage began in July and is covering the area between Mar del Plata and Ushuaia. A third voyage is planned for September to November.

Another trawler, the *federal* chartered by the federal Ministry of Food, will be used in February/March 1979 for studying catching techniques and processing.

FARMYARD WASTE

Report by Robin Burton

A SPECIAL type of urethane, made from farmyard wastes, and developed for use in the mining industry, is now being put forward as a basis for antifouling paints, as a cure for osmosis in glassfibre hulls, and as a base for non-slip deck coatings.

The material is known as Irlathane 155 and was originally thought of as a replacement for rubber. It is being used as an abrasion-resistant elastomeric coating which has a very smooth surface and cures quickly at ambient temperatures. The surface is very resistant to oils, fats, lubricants and most other forms of contamination.

It does not degrade or craze in strong sunlight, although colours tend to fade somewhat.

Hydrolysis resistance is also excellent, although for long-term service it is recommended that water immersion or high humidity application temperatures should not exceed 140 degrees F.

Irlathane 155 has been used on a variety of surfaces such as wood, steel and GRP down to temperatures of minus 200 degrees C without damage.

Osmosis in older GRP hulls is quite a common problem, and it sometimes occurs in hulls which have been poorly laid up. Such hulls can be sprayed with Irlathane 155 and are then found to be quite watertight.

For deck coatings the material has the obvious advantage that, being sprayed on, it does not curl or crinkle at the edges or cockle over a curved surface. Also, it can form watertight joints at edges where deck and toe rail meet and rot often occurs. Non-slip sand may easily be incorporated in the final coating.

Possibilities

Possibilities for using Irlathane 155 as a basis for antifouling paints are now being evaluated. It has been found that marine growths have considerable difficulty adhering to the slick surface and are easily washed off with a broom or pressure jet.

The material is sprayed on after surface preparation and treatment with a surface primer followed by a bonding coat. Cost is likely to be about £3.50 per litre.

The firm involved, Irlathane International Ltd., of Horsham, Surrey, England, says that it is intended to incorporate non-toxic antifouling agents, if possible.

continued from page 17

HOME A YEAR AWAY

Argentina's 200-mile economic zone for one year.

Argentina receives a loan for the construction in Germany of a research ship and gets a report on possibilities for developing a fishery industry in Patagonia.

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Another trawler, the *federal* chartered by the federal Ministry of Food, will be used in February/March 1979 for studying catching techniques and processing.

Sri Lanka to sell sea shells

SRI LANKA sea shells could soon be useful export earners for the country. Shells, such as the small butter-yellow "money cowries" are in demand for processing as jewellery and buttons in European fashion houses.

This shell gets its name because it was actually used as money in the South Pacific and the Maldives years ago.

It is presently harvested off the east coast of Sri Lanka and around Puttalam (Pigeon Island).

Harvesting and preparation of shells for export is one small-scale industrial project envisaged for the Institute for the Transfer of Technology, which is being formed by West German industrialists in collaboration with the Sri Lanka Chamber of Small Industries.

Growing UK radar market

REDIFON Telecommunications Ltd. has sold more than 100 Furuno FRS24 radars to British fishing vessels over the past year.

Redifon is the UK agent for Furuno Electric Company of Japan.

It says this success reflects both the quality of the equipment and the "situation in the fishing industry where cost effectiveness plus performance and reliability are now key factors."

The company reports that demand has been increasing steadily for the FRS24 and other Furuno radars.

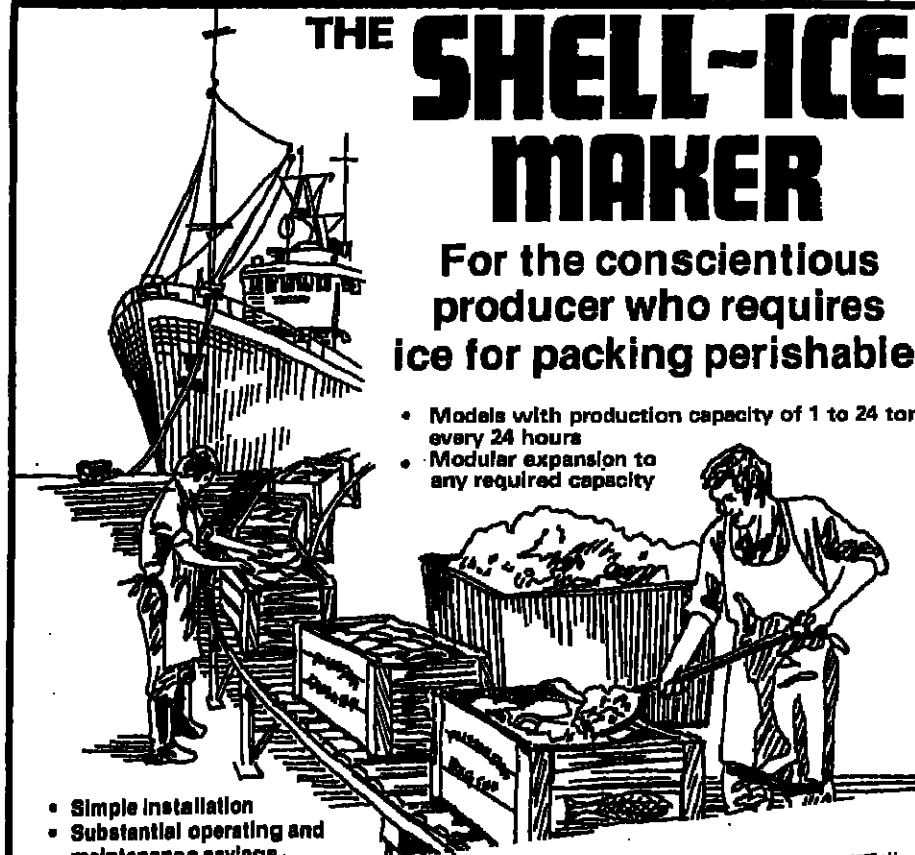
The FRS24 has a 7kW transmitter with a range of 24 miles and displays on a seven-inch PPI screen.

Other sets include the FRM64, with a range up to 64 miles, and the FRS48, with a 48-mile range.

Latest addition is the small FR160 with a range up to 16 miles, "plus all the reliability and economy of the others."

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